THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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THE NEW YEAR.

THE year of our Lord, 1868, is now opening upon us. We have turned a new page in the history of our lives. What shall be inscribed upon it? Shall it be written over like the copy books of the years that have gone by, with the mottoes and proverbs that have come down to us from past generations,—the heir-looms that we have inherited from our fathers,—the stereotyped maxims, the crystalized thoughts of other times?

These embodied the wisdom that pervaded the mind of humanity when the limits of knowledge were much narrower than they are now; when the fields of science were undeveloped, and the true principles of their cultivation were unknown; when superstition occupied the place of living faith, resting on reason and proof. Many of these maxims serve only to fetter the mind and obstruct its progress in the pathway of improvement. The present is an age of progress. New light is breaking in upon the human mind. Research and investigation are revealing new facts and new principles. What was obscure and doubtful is becoming clear and distinct. The empirical practices and beliefs of the past, are giving way to the teachings of science, and the demonstrations of reason. The applications of science and art are revolutionizing the thoughts, the works, and the manners of men, are opening new channels for commerce and new fields for human industry, and subjecting the forces of nature to the service of humanity. Daily calls are made upon the thinker, the inventor, and the manufacturer, for new means, new combinations, new applications of science, and new implements of art.

The cultivator of the soil is called upon for new materials, and better methods, and more efficient instruments of culture, and this indicates the necessity of a more thorough knowledge of the nature and capacity of the soil, and all the agencies concerned in the growth and perfection of vegetable and animal life, and of the means by which it may be protected from injurious and destructive influences. Many things are yet to be learned with respect to all these subjects. New revelations are yet to be made. It may be we are attempting too much in certain directions, and hence find our labor unprofitable. Perhaps we are trying to cultivate plants and varieties of animals that are not suited to our soil, and

especially to our climate, and hence find the cost of labor and material increased beyond the limits of remuneration.

The advocates of free trade found their doctrines upon the idea that it is better for the people of different countries and climates to cultivate and manufacture such things as are best suited to their capacities and circumstances, and obtain such other commodities as they need, by a free exchange with those who can easily and conveniently produce them, and that the attempt to enforce the production of everything that the wants and comforts of man require, in every country and climate, is doing violence to the laws of nature. It may be that there is a certain amount of truth underlying these doctrines, and that a more comprehensive knowledge would teach us that the highest success is to be attained when our action and our efforts are in accordance with the laws of nature. We may overcome the power of gravitation by the application of sufficient force; but when we move the resisting body in the direction in which gravitation acts, we certainly find our labor greatly facilitated. So in every other case. When we act in accordance with the laws of nature, or can bring the forces of nature to aid us, our success is higher and more certain. There needs, then, a proper adjustment between our operations and the natural laws, and as the laws of nature are unalterable, our arrangements must be conformed to them. Hence the necessity of a thorough knowledge of natural laws, and especially of those that more directly affect the operations in which we are engaged.

Shall we, then, during the year which has now commenced, turn our attention in this direction, and carefully observe the phenomena which occur around us? Shall we note the state of the weather and the meteorological changes that occur, and their effects upon our crops and our hearths? Shall we note the effects of different manures, and different methods of cultivation?

Shall we keep more accurate account with our help, with our stock and our fields, that, at the close of the year, we may be able to strike the balance between profit and loss? Shall we have the enterprise necessary to try rational and prudent experiments in whatever bids fair to promote the advantage of our families and our fellow men? Shall we be more public spirited, and join cheerfully in all efforts to promote the good of the communities in which we dwell? Shall we lend our countenance and aid to the cause of education, and seek to elevate the standard and improve the methods and furnish liberally the means of instruction? In this matter our children, our second selves, have claims upon us which we cannot refuse to recognize. The world is moved by mental, not muscular force. Mental power works by means of animal and mechanical force, and higher degrees of mental cultivation are required to use to the best advantage the irrational forces that are brought within our control. Let us not forget the demands of the age in this respect. Shall we cultivate purer morals and strive to do, under all circumstances, not what is expedient, but what is right? Shall we seek to attain to a higher spiritual life, and a larger development of the religious element within us, remembering that the future is but a continuation of the present life, and that the greater attainments we make here in spirituality and purity, the higher we shall stand when we leave the body and step forth into a wider and freer life? Shall we, then, inscribe upon the newly turned page of 1868 the motto—Excelsior?

GREAT STOCK SALE.

The *Prairie Farmer* gives a detailed account of the auction sale by the administrator of the estate of the late James M. Hill, "Highland Farm," near Harristown, Macon Co., Illinois, of the live stock and standing corn on that farm. The fact that these two items of personal property were sold for over twenty-five thousand dollars, shows that farming is not necessarily a small business in Illinois, whatever may be thought of it by the Young America of New England.

The reputation of Mr. Hill as a breeder of Short Horns was such as to draw a large concourse of cattle men not only from all parts of his State, but from other States and the Canadas. Fifty-two Durham bulls, cows and heifers, averaged $279.90 per head, amounting to $14,513. One Cotswold Buck, $65; nine Cotswold Ewes at from $31 to $60. Eighty different lots of hogs were sold, ranging from $4 to $60 for single pigs, and for single lots from $10 to $100; yearling mules were sold for $127.50 each. Nine horses and colts were sold from $50 for sucking colts, up to $250

each. Working oxen, from $169 to 213. Yearling steers, at $42.50 per head. Fifty-eight feeding steers, at $75.25 each; and standing corn in the field, from $9 to $17.25 per acre.

AGRICULTURAL TEACHERS.

I don't think anybody takes more interest in an agricultural paper than I do. I am about sick of political newspapers, although they may be well enough in their place. But a paper which tells us how to get out of the earth (the great store house of wealth), the abundance that lies hidden therein, should always find constant readers. Your "Extracts and Replies" I consider the best part of your paper and I always turn to those columns first. They contain the practical wisdom of individual experience. I hope you will urge liberal communications from the farmers for those columns, and will not be timid about giving the "replies." Whenever any one has obtained any information from his own observation, let him jot it down whether in season or out, but perhaps better out of season, and then the reader can ponder on it and lay out his plans for another year. No cultivator of the land can learn everything as he goes along, but must first make many of his plans and then be ready to carry them out as the proper season comes. It is a good time in the winter to give the experiences of the past year, and then the cultivator of the soil can gather his information and lay out his plans for another summer therefrom. If he does not get his new ideas till the proper season for applying them arrives, ten chances to one that the season does not escape him before he is ready to act on them. I don't know that I shall bother you much more, although I have many things I should like to say. If your correspondents will adopt the suggestions hereof, I shall continue to be their constant reader, and shall without doubt profit much thereby. INQUIRER.

Sometime since, one of our contemporaries saw fit to criticise good-naturedly, but pretty sharply, a remark we incidently made in the course of a brief article, to the effect that we regarded it as a mistake for agricultural editors to assume to teach farmers their business. The rebuke of our worthy friend was pointed by an enumeration of the number of columns of editorial *teaching* that he found in the very paper in which we expressed the aforesaid opinion. Feeling that our critical friend "rather had us there," we deferred an explanation and defence of our remark to a more convenient season. The foregoing sensible remarks of "Inquirer," remind us of our long deferred purpose, and seem to afford an opportunity to define our position.

The thought that underlaid our remark is the same as that which prompted the article of our correspondent, which is adopted as the text of our present discourse. "I hope you will urge liberal contributions from the farmers," says he, because "they contain the practical wisdom of individual experience." "Whenever any one has obtained any information from his own observation let him jot it down, whether in season or out; but perhaps better out of season," &c. These are words fitly spoken, and we commend them to the careful consideration of every thoughtful tiller of the soil. Has any practical farmer passed through the year now drawing to a close without thoughts suggested either by what he has read or seen, which, if "jotted down, whether in season or out," would have proved beneficial to some other farmer? If he has been instructed or pleased by the thoughts and hints that others have jotted down, is he not in strict justice under the same obligations to pay therefor as he is to pay the subscription price of his paper?

With these thoughts in our mind we expressed the opinion which was criticised by our contemporary, that the editor who assumed to teach farmers their business mistook his vocation. We believe that his object and aim should rather be to induce them to teach each other. Instead of assuming for himself the position of teacher or professor, and of looking upon his "patrons" or readers as his pupils or scholars, he may regard himself as chairman, *pro tem.*, of a preternaturally extended debating club, and his subscribers as participators in the grand harangue; each one and all being entitled to the floor on the observance of well known parliamentary rules.

In addition to our duties as presiding officers of the great assembly of over seventeen thousand weekly, and a rapidly increasing class of monthly attendants, we claim as practical farmers all the rights and privileges of membership. In consequence of the extreme modesty of the great majority of our brother debaters, we find it necessary to "speak in meeting" oftener and more at length than we should otherwise be glad to do.

Brother farmers, we are not your teachers. We are willing to act as your engineers in running the machine for our mutual benefit; but, in the words of Brother Boardman, conductor of the *Maine Farmer*, we must remind you that "the severe labor of the season is drawing to a close, and the long evenings, the golden opportunity for working men to improve their minds and also to aid in improving the minds of others, is at hand. We desire at this juncture to call the attention of our readers to the

excellent opportunity afforded by this time of comparative leisure to write out for us the experiences of the past season's operations. Much has no doubt been learned by every farmer; some have succeeded with certain experiments, others, doubtless, have failed—let our readers have the knowledge of those failures or successes, and thus confer a benefit upon the large family of our subscribers. Every reader of the FARMER, who is himself a practical man, has without doubt learned something new about the action of manures, the culture of crops, the feeding and fattening of cattle, the care of bees, the grafting of trees, the growing of grapes or some one of the almost numberless operations of the farm, garden, orchard and general rural economy, and we invite all such to contribute for our columns any article, fact, suggestion or result of experiment, upon any or all of the above topics, or others having relation to farm matters, for the entertainment and instruction of our readers. Send along the documents, kind friends, and thus help us in our endeavors to make our paper of greater value, of more practical worth, and having more direct interest to all farmers and working men. We will cheerfully do any necessary pruning upon your letters, and put them in proper shape for publication. Shall we not have a ready and generous response to this direct call upon our readers and correspondents for the information wanted, and which none beside can so well furnish?"

For the New England Farmer.

MILK PRODUCERS' CONVENTION.

A large and enthusiastic meeting of those engaged in the production of milk—delegates from Farmer's Clubs, and representatives of the various milk routes in the counties of Middlesex, Essex, Norfolk and Worcester, and from New Hampshire, also,—was held at the New England House, in Boston, on Tuesday, December 3, in pursuance of a call of a committee of the North Wrentham Farmers' Club, "*for the purpose of protecting their interests, and arranging a uniform scale of prices dependent upon the supply and price of feed, &c.*"

The Convention was called to order by D. Rounds, Esq., of North Wrentham, who, subsequently, was appointed permanent chairman of the Convention. Samuel Osgood, of Sterling, was chosen secretary.

On assuming the duties of the chair, Mr. Rounds addressed the Convention in appropriate remarks, setting forth at considerable length, the origin and objects of the meeting.

On motion, a committee on credentials was appointed.

An animated discussion now followed, in which a large number of gentlemen participated, after which, a committee of twelve was appointed to prepare and present to the meeting, as far as practicable, a plan of organization; and also, to nominate a list of officers.

After an adjournment of an hour, the Convention was again called to order, and the committee on organization submitted the following report:—

The committee recommended the formation of a permanent association, to be called "The Milk Producers' Association."

That the officers of the Association consist of a President; three Vice Presidents; Secretary; Treasurer; and a board of six Directors.

The committee recommend that another public meeting of milk producers and delegates from Farmer's Clubs, be held in Boston, on the 26th inst., at 10 o'clock, A. M., at some place to be designated hereafter, for the purpose of perfecting the organization, and for the transaction of any other needful business.

The committee nominated the following gentlemen as officers of the Association:—

For President—Mr. Belknap, of Westboro'.
For Vice Presidents—J. Robertson, of Quincy; L. Crosby, of Billerica; Dea. Geo. Shute, of ——.
For Secretary—D. Rounds, of North Wrentham.
For Treasurer—S. H. M. Hurd, of Wayland.
For Directors—W. S Pillsbury, of Londonderry, N. H.; C. A. Hubbard, Concord, Mass.; Hammon Reed, Lexington, Mass.; Elias Colburn, Temple, N. H.; C. H. Haskell, Harvard, Mass.; Gen. —— Nason, Hampton Falls, N. H.; Samuel Osgood, Sterling, Mass.

The committee also recommended that the President, Secretary, and W. S. Pillsbury, be a committee to prepare a Constitution and suitable By-Laws for the government of the Association.

The report of the committee was accepted, and adopted unanimously.

It was voted that the Secretary prepare and offer for publication, a copy of the proceedings of the convention in *The Massachusetts Ploughman* and NEW ENGLAND FARMER.

A vote of thanks was tendered to the chairman of the convention for the courteous and able manner in which his duties had been performed, to which he appropriately responded, after which the convention adjourned.

SAMUEL OSGOOD, *Secretary.*

For the New England Farmer.

"CANNING FRUIT."

An article with the above heading, taken from the *Farm and Fireside*, has been going the rounds of the papers, and it seems to have taken well with the editorial fraternity, if not with the people. The writer says "Like many others, I tried again and again to seal fruit cans so as to keep the fruit without moulding on the top, but did not succeed."

Now I would ask the writer whether he used

glass or *tin* cans? If *tin*, failure ought to succeed every effort, as it is *wholly unsuitable* for the purpose. If glass was used, I hardly see why he did not succeed, if, as the writer says, he or she was "particular to follow printed directions in general use."

Having canned a large quantity of fruit, for use in my own family, within the last five years, and having been so fortunate as to have had hardly any bottles or cans spoil, or even mould upon the top, and this, too, without anything like the amount of labor which the writer aforesaid says was expended, I thought a word from me might be acceptable to that person, and also to "many others."

I began bottling fruit in quart bottles of all descriptions; but as glass jars came into the market, I used those. I now use the glass jar—Lyman's—with tin cap and rubber ring, using no sealing wax whatever. I have used them three years, and have never lost a berry, either by souring or moulding.

With the bottles, I used corks and sealing wax. When the bottle was filled, I pressed the cork below the top of the neck, filled in with wax, made of resin and tallow; took a strip of strong cloth, tied it over the neck, and then coated that with the wax. In this way I prevented the cork being drawn in by the great pressure of air on the outside, and consequently the admission of any air to the berries. The corks were previously boiled in water, which, rendering them soft and pliable, a much larger cork could be driven into the bottle than if dry, and of course it fitted tighter.

I have blackberries, blueberries, raspberries, currants, peaches, pears, &c., &c., every bottle of which is "keeping," perfectly.

It may be well to add that, in heating my jars, I just dash them into a pan of hot water, and giving them a quick rolling motion, the water comes in contact with all parts of the jar at nearly the same instant, thereby obviating the danger of breaking it, as is liable to be done by the unequal heating and expansion of the glass. B.

New Hampshire, 1867.

For the New England Farmer.

CULTIVATION OF THE PEACH.

Being desirous of obtaining, from some *reliable* source, the best method of treatment in all particulars of the *peach*, I applied, through a friend, to a very reliable gentleman, of Philadelphia, who has a very large orchard, and has been very successful in its cultivation, for such information. I send you, herewith, the important extracts from his communication. They may, or may not be of any use to us in this section of country, but it seems to me that any course of treatment that will tend to restore to us the peach orchards of twenty years ago, should not remain untried. I am inclined to believe, however, that one great, and I fear irremediable trouble with both the peach and apple is the ruthless way in which we destroy our *forest trees*, which heretofore have acted as a shelter from our extreme cold in winter and our blighting winds.

"The best plan is to get from a reliable nursery one or two-year old choice *grafted* peach trees, and transplant them early in the spring. Dig the holes for the trees in the fall, say a yard in diameter and eighteen inches deep—mix a little well rotted manure and leaf mould with the dirt taken from the holes *this* fall, and let it lie exposed to the atmosphere at the side of the holes during the winter, ready to use when planting the trees in the spring. A northern slope of a hill is best for peach trees, as it prevents the *too early swelling* of the fruit buds, in the spring, and subsequent liability to being destroyed by later frost.

"After the trees are three or four years old, it is best every fall to remove the soil for a distance of eight or ten inches around the trunk down to the *top of the main roots*, thus forming a bowl for snow and ice to form in during the winter, destroying the worms or germs of worms. In the spring, fill these holes or bowls with ashes. If during the summer the leaves curl or turn yellow, it will be caused by worms attacking the tree where the roots join the trunk. Remove the ashes, and wherever gum is found oozing out, apply the knife until the worm is destroyed, then fill in with ashes again—*there is no danger of hurting the tree by thus cutting.*

"Peach trees should only be trimmed of dead wood, and shortening of long horizontal limbs, to keep them from breaking by the weight of the fruit.

"I have as fine peaches and in as great abundance as are produced in the State of Delaware on river bottom lands, notwithstanding my land is six hundred feet above tide water in Chester County, Penn."

I am, gentlemen, very truly, yours,

F. COPELAND.

BUILDING ON A TEXAN RANCHO.—In describing a house fifteen feet square, and another small building for a cook room, which a Northern man, Mr. B. F. Dane, has recently erected, on a rancho he visited in Texas, Dr. Boynton says in a letter to the *Mirror and Farmer*, that this undertaking which may look as but a small job to a New England man, becomes very formidable and expensive, where a man who can handle carpenter's tools can be had only a day or two in a week at best, and where you must wait for boards to be hauled seventy or eighty miles, with ox teams that move at the rate of eight miles a day, when the oxen are not lost—and then a mile in eight days is not an uncommon rate of motion.

ASTRONOMY AND AGRICULTURE.

LET us look into the heavens on one of these clear, cold nights. We see the moon moving on in her grand course, with her horns half filled, or, perhaps, with borrowed light sufficient to round her up into ample fullness; or the Aurora Borealis, streaming up from the arctic regions and spanning the arch of heaven; or the countless stars, twinkling at each other, and sparkling, as if to outdo their neighbors in brilliancy and glory; and the stars, some of whose light, though travelling with almost incomprehensible velocity, was years in reaching our earth,—and we are lost in wonder, admiration and gratitude. and led to exclaim with the Psalmist, "Many, O Lord my God, are thy wonderful works which thou hast done, and thy thoughts which are to us-ward: they cannot be reckoned up in order unto thee: if I would declare and speak of them, they are more than can be numbered."

We are not left, however, without some *certain* knowledge in relation to them. If we know that beings, created as we are, could not live in the moon, which is without an atmosphere, we do not know but He who created all things has fitted them—if they are there—for such a condition of things.

We have much undoubted knowledge in relation to the *movements* of the heavenly bodies, as the appearance and disappearance of very many of them are foretold with unerring accuracy for a great number of years in advance. The appearance of the vast number of meteors which have recently burst upon our world, was foretold a great many years ago, and so of obscurations of the sun, moon and other bodies. "The heavens declare the glory of God; and the firmament sheweth his handiwork. "Day unto day uttereth speech, and night unto night showeth knowledge. "There is no speech nor language where their voice is not heard."

> The spacious firmament on high,
> With all the blue ethereal sky,
> And spangled heavens, a shining frame,
> Their great Original proclaim.
> The unwearied sun, from day to day,
> Doth his Creator's power display;
> And publishes to every land
> The work of an Almighty hand.

We find by the books that astronomy is among the most ancient of the sciences, as it can be traced back as far as authentic history reaches, and its origin seems lost in the night of time. The periods of the heavenly bodies were made use of to measure the parts of the year. Almanacs, and calendars of all kinds, are founded on this science, and without it we should be destitute of the means of safe navigation, be incapable of making a correct geography of our planet, and should have but a very imperfect knowledge of the seasons of the year, and the appropriate occupations of the husbandman in each. "Astronomy, too, extends our knowledge of mundane existence; by it we find that the whole of our magnificent solar system is but an immeasurably small part of the whole that we can see of the universe; and we are led to the discovery of worlds, placed at a distance beyond all human computation, which compels us to admire the great harmony of nature that prevails in the stupendous mechanism of the heavens."

But it is chiefly to the practical utility of the science to the farmer that we wish to allude. Agricultural observations in ancient times were regulated by the rising and setting of the signs of the Zodiac, and other constellations, and then, accurately compared with the flowering of plants, the arrival of birds, and other natural phenomena, became the basis of the earliest rustic calendars.

The familiar acquaintance with the time of rising and setting of the stars, must have been a source of great amusement, as well as profit to shepherds, mariners and husbandmen of old, who, being constantly abroad in a fine climate, and beneath a sky almost perpetually serene, must have had an abundant opportunity of observing the heavenly phenomena.

Steering by the stars is as old as any recorded instance of navigation. Planting, sowing and ingathering by the stars, is as ancient as any record we possess of agriculture, and pastoral life has left no traces behind it unconnected with accounts of the celestial warnings of the heavenly spheres.

The ancient mariner had his "Tyrian Cynosure," the steadfast index of the northern pole. He knew the hour of the day by the sun, and kept the night watches by the bear. The husbandman, likewise, marked the seasons by the stars; he waited for the annual overflowing of the Nile till admonished of its approach by Sirius; he marked the return of spring in the

setting of Pisces, and he compared it with the coming of the swallow; in short, all rustic operations had their admonitory signs, and the operations of agriculture began with the science of the Zodiac. While the shepherd in his turn, no less dependent than others on the heavenly movements, had his star of Arcady, and his Pascal Aries; he drove afield with the morning ray of Phosphorus, and at eventide watched for the *star that bid the shepherd fold.*

No science is dwelt upon with more fervor in some of the old books than that of astronomy. Writers well versed in it, seem to catch an inspiration that is not common to writers on other subjects. And well they may, for what else can so rivet attention and expand the mind as the contemplation of the stupendous and wonderful works of an Almighty hand, as seen in the arrangement and movements of the heavenly bodies? And yet, how few give any attention to astronomy as a study. In recently visiting several schools of a high order, we heard no recitation in this delightful science.

The old traditions, however, are not all lost upon our people, for some of them still continue to sow and reap, slaughter animals, and do many other things in certain phases of the moon. That a better knowledge of the science, would subserve the interests of the farmer, we have no doubt. A single winter's study, during the long evenings, will open a new world to every inquiring mind.

COOKING FOOD FOR ANIMALS.

Commencing with the able article of our correspondent "N. S. T.," the subject of cooking food for cattle has occupied considerable space in our paper for a few weeks past. Still we think the following remarks by a practical farmer in New York, who has had some eleven years' experience, will prove interesting, inasmuch as he touches on some points alluded to in the discussion by the Royal Agricultural Society of England, which we published last week, and also on the inquiry of a correspondent in another column.

What is the effect of cooking food? Starch, as found in the cells of vegetables, consists of globules or grains, contained in a kind of sac, and in order to burst these grains it must be subjected to heat. Payen, on examination with the microscope, found that when starch was mixed with water and heated to 140°, some of the smaller grains absorbed water and burst, but many still remained unaffected, and only burst between 162° and 212° of heat. This shows, conclusively, that the heat of the animal stomach is not sufficient to utilize starchy food; and when we reflect that about sixty per cent. of the cereal grains consist of starch, we see the great loss which must occur from the want of cooking. And if the cereal grains require cooking, how much more must the dry fibre of hay, straw and corn fodder require it! The woody fibre of hay, straw, &c., consists, chemically, of the same elements as starch. Starch may be turned into gum and sugar; so may woody fibre, after being dried and ground, and by the same means—heat and dilute sulphuric acid.

All woody fibre will yield to steam pressure, and when thus reduced to a pulpy mass, most of it is digestible, and can be assimilated by the animal stomach. Grass, the natural food of domestic animals, in its succulent state is soluble, and needs but the natural heat and acid of the stomach to convert it into nutriment. Hay, straw, &c., by thorough steaming are reconverted into grass, and thus the animal may be furnished with its natural food through the winter.

We can say, after eleven years' experience in cooking the winter food of our animals, that the advantages are all that theory would indicate. Steaming renders mouldy hay, straw and corn-stalks sweet and palatable, thus restoring their value; renders peas and beans agreeable food for horses, as well as other stock, and thus enables the feeder to combine more nitrogenous food in the diet of his animals.

We have found half hay and half straw mixed and steamed more than equal to hay unsteamed. Pea straw, when cooked, is readily eaten, and, if cut early, nearly as nutritious as hay. Bean straw, which, when dry, is generally left untouched by cattle, will be all eaten if steamed with hay, and, as analysis shows, is more than equal in flesh-forming matter to hay. Corn-stalks, when cut short and steamed, will be eaten clean by cattle, horses and sheep. By cutting and cooking, all the straw and coarse fodder raised on the farm may be turned into milk, flesh and wool, besides adding largely to the manure heap.

In cities, where cows are kept to supply milk, and are milked through the winter, cooking their food will greatly increase the yield of milk, improve the condition of the cow, and reduce the expense of keeping at least one-third. The saving in food for each cow in milk will be, at least, eight dollars per season. This item may be worth looking after by city feeders. The mixture of oil and pea meal and bran, as we have indicated, makes an excellent food to produce milk and keep up the condition of the cow. One and a half pounds each of oil and pea meal, and three pounds of bran, mixed with ten pounds of hay and steamed, per day, for each cow weighing 800 pounds, will generally be sufficient. This may be thought a small quantity from which a cow of

that size, at her best season, could produce four gallons of milk and keep up her condition, but it must be remembered that four gallons of milk contain only about four pounds of dry matter, which will leave a supply for the thrift of the cows. Yet it is always the best economy to give a cow in milk all she will eat with a good appetite; for it takes a certain quantity to keep the cow in condition without gaining any milk, and what she will eat above this should be added to the milk. Thirty-three to forty per cent. would require to be added if uncooked. But with the estimate given, it will be seen what a splendid margin there is in producing milk in cities at ten cents per quart!

This combination of food recommended for milch cows is also well adapted to growing the young animal, as it contains a full supply of bone and muscle nutriment. For fattening, let the pea meal be replaced with six pounds of corn meal. Corn meal may also be used in small quantities for milk where butter is to be made.

Effect of Cooked Food upon Animals.

It has sometimes been urged, that, although the animal eats less and for a time thrives better upon cooked food, yet its tendency is to weaken the stamina of the system and produce premature decay. We have been able to test this theory fairly, and can now show, as the result, cows and horses, which have been fed every winter upon cooked food for eleven years, and so far from showing any ill effects of this way of feeding, the cows have never been sick, and are now in fine condition and heart, and the horses able to do good work, although sixteen and seventeen years old. We have raised many colts from weaning age to five years, and never saw any want of stamina. The effect of cooked food upon horses with a cough or a sudden cold is very remarkable, almost uniformly producing a cure in a few days. It will cure incipient heaves, correct costiveness, and materially improve a founder. In fact, our animals have been more uniformly healthy since feeding them upon cooked food. But, it is true that sheep and other animals fattened rapidly upon steamed food, will be softer in flesh than if fattened more slowly upon uncooked food. Yet this would naturally be expected. Grass grown rapidly upon very rich land is not so solid as that grown slowly upon poorer land; but who would prefer the poorer land in consequence? Just before animals are ready for the butchers it is well to feed them a few days upon dry, uncooked food, which will correct this softness of flesh.

Preparing Food for Steaming.

The cut hay, straw and hay, or other cut feed, is moistened with a large watering pot (if done by hand,) at the rate, of at least, two gallons of water to five bushels of feed, while it is being stirred up with a fork, then if bran, meal or other feed is used with it, it should be sifted on and mixed evenly. Two quarts of bran to the bushel of straw will render wheat, barley, oat and pea straw equal to good timothy hay. A little salt should be added, which will be perfectly diffused through the mass. The feed must always be moistened before steaming, for steam will not cook dry hay or straw, but only dry it more. Moisture is required to absorb the steam.—*E. W. S., in Rural New Yorker.*

SMOKE IN WINTER.

BY THOREAU.

The sluggish smoke curls up from some deep dell,
The stiffened air exploring in the dawn,
And making slow acquaintance with the day,
Delaying now upon its heavenward course,
In wreathed loiterings dallying with itself,
With as uncertain purpose and slow deed
As its half-wakened master by the hearth,
Whose mind, still slumbering, and sluggish thoughts
Have not yet swept into the onward current
Of the new day; and now it streams afar,
The while the chopper goes with step direct,
And mind intent to wield the early axe.

First in the dusky dawn he sends abroad
His early scout, his emissary smoke,
The earliest, latest pilgrim from his roof,
To feel the frosty air, inform the day;
And while he crouches still beside the hearth,
Nor musters courage to unbar the door,
It has gone down the glen with the light wind,
And o'er the plain unfurled its venturous wreath,
Draped the tree-tops, loitered upon the hill,
And warmed the pinions of the early bird;
And now, perchance, high in the crispy air,
Has caught sight of the day o'er the earth's edge,
And greets its master's eye at his low door,
As some refulgent cloud in the upper sky.

BUTTER MAKING.

A correspondent of the *St. Albans Messenger* remarks on his process of making butter as follows:—I keep twenty-three cows of the native stock, with a slight mixture of Durham; their feed was the fall feed in my mow fields, with pumpkins in the morning; the cream was gathered in three days from milk that set thirty-six hours after milking; the cream then set twenty-four hours, and was churned; when the butter came it was put in a wooden bowl and washed with spring water until the milk was all washed out and the water ceased to be colored and remained clear, then the Ashton salt is worked in by hand, at the rate of one oz. to a pound of butter; the butter is then set away to stand twenty-four hours, then it is worked over by hand, taking a small quantity at a time and working out all the brine, then it is pounded down in the tub; the tub is filled within a half-inch of the top, when it is covered with a cloth, over which is spread a thin layer of salt. This tub was packed the 4th of October. Cream is not churned the same day it is skimmed, as it will sometimes have a peculiar taste which it does not have after standing twenty-four hours. In the fall, the pans are filled two-thirds full and the cream rises as well, but in summer it should be more shallow."

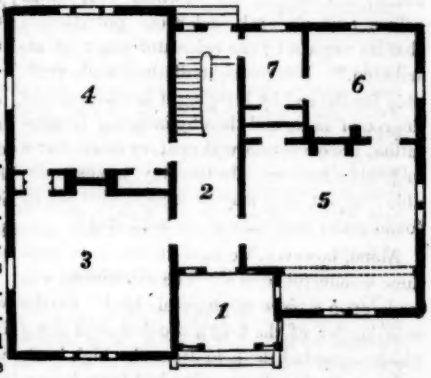
A PLEASANT AND CONVENIENT COUNTRY HOUSE.

We copy the annexed illustrations from an architectural work entitled "Homes for the People," by G. Wheeler, of New York, which was published before the late rise in the cost of building materials, and when such a cottage could be erected for from thirteen to fourteen hundred dollars. As we publish plans of houses, &c., for the purpose of affording hints and suggestions to those who are considering the subject of building, rather than as models for exact imitation, we condense the detailed descriptions and directions of the artist.

No. 1, of the plan, is a porch 10 by 6 feet; No. 2 is the hall, 6 feet wide; No. 3, parlor, 14 feet square; No. 4, bedroom of the same size; No. 5, the living room, with fire place and closet, 16 feet square, with the exception of the corner taken out by the recess, and adjoining it is a summer kitchen, No. 6, and a pantry, No 7.

The floor above is divided in a similar manner to the one that has been described, excepting that the partition above that between the hall and family living room, No. 5, is moved further in the room, and is upon the same line as the wall of the recess. By this means a pleasant sleeping-room for a child is added to the plan, and the chamber by its side still remains a large apartment. The space above 7, is appropriated to closets for stores and for linen, and an open area for boxes; over 6, is another small bedroom, and the remainder of the house has three large sleeping-rooms, over 3, 4, and 5.

The finish of the exterior, as represented in the cut, is what the artist calls "the Italian style," and the roof is represented as covered with boarding, over which roofing paper, cloth or tin, is laid, with raised rolls. These features may be adopted or rejected as the circumstances, materials and taste of the builder may suggest.



Plan of the First Floor.

TANNER'S BARK.

In many portions of New England, large quantities of the bark of trees, especially that of white oak and hemlock, are used for the purpose of tanning the skins of oxen, cows, and perhaps some other animals.

Until recently, most, and at the present time, much of this bark, after having been ground into quite small pieces and used for tanning purposes, has been thrown into streams and washed away, converted into paths about houses or gardens, and sometimas spread upon long reaches of the highways, as being the most convenient mode of getting rid of it.

Within twenty or thirty years, however, some thoughtful persons have supposed that the bark contained valuable properties as a manurial agent, and in sufficient quantity to justify experiments with it. Upon investigation, they found that it had long been considered worth saving in England, and that every bushel of it was carefully preserved and formed a principal ingredient in the compost heaps, wherever it could be conveniently obtained.

Several kinds of bark have been analyzed by various chemists, and have been found to consist chiefly of carbon, oxygen and hydrogen, with various saline and earthy substances. *M. Saussure* found in 100 parts of the ashes of the bark of the

	White Oak.	Poplar.
Soluble salts,	7.	6.
Earthy phosp ates,	3.	5.3
Earthy carbonates,	60.	60.
Silica,	1.5	4.
Metallic oxides,	2.	1.5

"From this analysis the farmer will see that the earthy and saline ingredients of the bark of forest trees must be valuable as fertilizers; it is only to the slowness with which refuse tanner's bark undergoes putrefaction that its neglect by the cultivator must be attributed." It is undoubtedly best made available for the soil by bringing it into a moderate degree of heat, and thereby inducing fermentation, in connection with peat, or other coarse vegetable matters. In this way, a most valuable compost heap may be formed, that will be found active and efficient on most crops.

Alone, however, we have known it to produce wonderful results. The experiment was made upon a piece of pine plain land. On the west border of the field a brook flowed along which separated the field from the high land, and near the brook a tanning had been in operation for some fifty years. At length the tanning was discontinued, and a gentleman purchased the premises—including the sandy field—as much with a view of *experimenting with the bark* as for the convenience of owning more land near him.

The pits were filled, the yard leveled, and large quantities of the remaining bark hauled upon the sand, and ploughed under only two or three inches; just deep enough to cover it, with a view of keeping it moist, and so near the surface that it should be kept warm by the solar rays. A single horse would plough it, and this was done two or three times in the course of the season, adding at each time more bark, but in less quantity than at first, and gradually ploughing deeper.

The second year more bark was added, the ground thoroughly ploughed, potatoes were planted and yielded a fair crop.

When we saw the field, it had been yielding clover, at the rate of about two tons to the acre for several years, and *without any other dressing* but the bark, added annually and ploughed under. How much fertilizing matter the bark contained, in the form of scrapings from the skins, bits of horn, hoof, or other substances, and the lime used in tanning, the experimenter could not tell,—but not more than is usual in similar yards. He thought the percentage quite small.

These statements were made by the owner of the land, who appealed to the citizens of the village who were present and had seen all his experiments, and who verified them.

The process of fertilization was a slow one, but the cost was trifling, and came from the force of the farm, not from *cash* which had been earned in some other way.

PULVERIZATION OF THE SOIL.

It was the opinion of the celebrated JETHRO TULL, that very superior crops might be produced indefinitely from the same soil, simply by maintaining it in a finely pulverized state, in order to allow the roots of the growing plants to expand freely in quest of their appropriate food.

Notwithstanding the fallacy of this theory, which, however, at one time was quite popular, it is obvious that the finer a soil is made by working, the better will it be capacified to sustain the crops it is required to support.

No inconsiderable portion of the actual fertility of every soil is derived from the atmosphere—principally through the economy of aeration or airing, which imbues or impregnates it with the fructifying gases, and gives energy to its particles, and to the mass in proportion to its lightness and permeability to their effects.

Of the numerous aerified and volatile substances imbibed by the soil, the most important, perhaps, so far as regards its effects upon the vegetable system, is ammoniacal gas. This substance is copiously evolved wherever animal manures are used, or permitted to ferment in a free atmosphere. It is absorbed by the earths, and acts as a most powerful stimulant, both to the plant and soil. The finer the earth is made, the greater is its capacity to absorb this gas; consequently, any process calculated minutely to pulverize or disintegrate its granules, will increase this power of absorption, and the more copious will be the supply of fertilizing matters from the air.

Heavy lands are, therefore, ameliorated by ploughing, spading, &c., which destroys their ponderosity, and exposes them to atmospheric action. It also secures a more immediate and efficient development of the fructifying principles of all such matters as may be applied as manure.

As to ammoniacal gas, it was long supposed to be an injury rather than a benefit to plants. This idea arose, no doubt, in part, from the pungency of its odor. It is evolved by a mixture of sal-ammoniac and quicklime, and is the principle which causes the smell noticeable in stables. Pure ammoniacal gas has been called "*The Awakener of the Dead*," as persons have sometimes been brought to life and consciousness after having fainted, by inhaling it, and even after animation has been suspended by other and more fearful causes.

To prevent the escape of ammonia from manure heaps, it is necessary to sprinkle them with a strong solution of copperas in water. The sprinkling should be repeated often, if the decomposition or fermentation is vigorous, and a small quantity of gypsum may be added, with good effect.

—Alden Adams, of Leverett, Mass., has this season gathered a goodly crop of hops off from the same vine that his grandfather gathered from *ninety years ago.*

For the New England Farmer.

FARM HELP.

Messrs. Editors:—As far as my experience goes, the difficulty of supplying the farm with good help seems steadily increasing.

There have been a good many men along the past season, but most of them have not been the steady, reasonable, faithful "help" so much needed by the hard-working farmer. I don't believe I am alone in often shrinking from undertaking a big job of farm improvement, for the reason that the men cannot be depended upon to put it through.

The number of men who work out their regular eight months from April to December, has grown less of late years. I see men pack up their things, and ask for their wages and leave, without an hour's notice, not caring a copper for the bargain made at the beginging of their service. Now the farmer is grievously wronged by such treatment. He has employed a new man, awkward and ignorant at everything, and after much pains-taking and considerable loss, gets him "broken in" to his business. Just as he is beginning to earn his wages, he learns of some cousin who brags of the big pay he is getting, becomes uneasy and leaves.

A neighbor, well known to you, whose large farm—lately mentioned so favorably in the Farmer—is somewhat retired, had one of his men leave, complaining that the place was too lonesome. His employer told him he couldn't very well move his farm into the middle of the town to accommodate him with society!

I hardly feel it right to detail personal experiences with hired men. Your columns could easily be filled with cases that have severely exercised many homes where the New England Farmer is read

What will benefit your readers more is suggestions to remedy the evil to which I have alluded. I live, as you are well aware, in a manufacturing village. The owners of the mill have suffered from unsteady help in times past. They now employ a better class of families, furnishing them with comfortable tenements at reasonable rents. Such help can be depended upon. They keep the machinery always going.

Now are there not many farms where married men might be employed to great advantage, and furnished with cottages and gardens which would fix them to the place, and make them mutually interested in its prosperity?

Will you be kind enough to enlarge a little on the above suggestions?

Yours truly, Wm. D. Brown.

Concord, Mass., Oct., 1867.

Remarks.—The remark is often made that farming, as an occupation, is unpopular; that young people, especially, dislike it, and that they will engage in almost any other calling, sooner than to work on a farm. If such com

plaints are true,—and they certainly are, in some measure,—there must be reasons for them. Some of the reasons could be easily cited, but only one will be alluded to at present,—and that is the great want of intelligent, industrious and *conscientious*, farm-laborers.

Farming, as a vocation, has been greatly changed within thirty years. While important improvements have been introduced in the modes of cultivating the soil, and much hard and wearing labor has been transferred from man to beast, other things have taken place, which have actually *changed the condition* of most New England homes, by the introduction of an element at once uninstructed and unmanageable.

There is scarcely a farm now in three of the New England States without one or more Irish persons upon it as "help," and frequently two or three indoors and as many without. In the other three States, Maine, New Hampshire and Vermont, there are not so many, but still may be counted by thousands in these.

Nearly all this "help" comes to us without education of any kind, ignorant alike of our modes of farming, housekeeping, and the laws and customs of the land. All this, however, we could overcome, and by patience, kindness and careful training, could, in most cases, get an equivalent in their labor for the cost which they incur, if they only brought along with their labor *an educated conscience*. But such is not the case. The remark of our correspondent on this point is true, and may be verified in hundreds of cases.

This is a deplorable state of things, and the introduction of this element to our farms, and the necessity which seems to exist for it, are among the leading causes why so many persons decline tomake farming a business.

Thirty years ago, the "help" on the farm was the proprietor and his healthy, educated and intelligent children around him, each feeling an individual responsibility for the maintenance of order, economy and industry in everything pertaining to the prosperity and general welfare of the family. When they came around the table at their meals it was a perfect love-feast, where thought, feeling and expression were harmonious, where the language used was common to all, and where a single interest animated every member of the family.

The entire management, or engineering of the farm, did not then fall upon a single person,—but some of the sons and daughters took an active lead in certain departments of duty, and claimed a responsibility which greatly relieved those oppressed, perhaps, with the burden of years. There was a system, and an economy of time and means practiced in everything, and an animus that needed no morning calls or the master's eye.

How is it now in the family of the farmer? His sons are in Idaho or Japan, and his daughters among the turpentine trees of North Carolina, or somewhere else, lifting the ignorant and debased out of the darkness in which a cruel custom had long enslaved them. Around his table and evening fireside, there are *two sets* of people, two languages, and scarcely an interest or custom in common among them. But this is not all; there is an antagonistic feeling, a common sentiment among them that runs counter to our customs, modes of life, labor and thought, which is added to an idea of *competency* which often runs into the ridiculous. The uneducated are usually the best taught—in their own judgment—and are the most tenacious of their opinions.

These persons have come among us to establish homes in our fertile and beautiful land, and there is "scope and verge enough" for all. We welcome them to it as one of the choicest portions of God's heritage. Here they can settle upon the land, protected and encouraged by wise and humane laws, and multiply and replenish the earth. Why should they stand apart from us, and cultivate a clanship which builds up a partition wall between us? Why should they not fulfil all their contracts, and act in good faith in every respect; discharge all their duties with fidelity, send their children into the common schools, and all become Americanized as fast as possible? It certainly is for their best interest so to do.

If any one of these persons supposes that an American does not perform his part of a contract, their instant resort is to the law, and many harrassing and expensive cases of litigation grow out of such suits.

Ought we not, then, to protect ourselves? Ought not the farmers of a town to meet, establish some rules of proceeding, collect a fund to defray expenses, and appoint certain persons to prosecute every case of *violation of*

contract which occurs among the subscribers to the fund? Let this be done in a few cases—no matter which party violates—and the outrageous practice of leaving employers without good cause, would soon cease. These violations take place among the help in the house more frequently than they do among the workers in the field, and they are sometimes vexations and perplexing in the highest degree.

And now, brother farmers, what shall we do? Deplore this condition of things, or use the means we possess for improving it, and come to the conclusion that we must labor for all that is good and beautiful, here and hereafter? The educating and establishing this long oppressed people *is a part of our destiny*, and as wise and faithful stewards, we must accept it cheerfully and labor in it with fidelity. We must not only teach them the arts of peace, but by precept and example, must teach them the moral law,—that *truth* and *justice* must be regarded in all the concerns of life, and that *conscience* is the spirit of God within us, ever directing us to that rule which requires us to do to others as we would have others do to us.

WOOL MANUFACTURERS.

The third annual meeting of the National Association of Wool Manufacturers was held in New York, October 2d. Hon. Erastus Bigelow, of Massachusetts, was re-elected President; T. S. Faxton, of New York, Theodore Pomeroy of Massachusetts, and Archibald Campbell of Pennsylvania, Vice Presidents; and John L. Hayes of Boston, Secretary.

The connection of this society with the National Wool Growers' Association, and the fact that this connection is looked upon by some wool growers with distrust and suspicion, give no little interest to the proceedings of this influential body of manufacturers. While we admit that manufacturers of wool, like the manufacturers of other articles, may be influenced by the general principle of buying the raw material where they can buy it the cheapest, we cannot believe they are so short-sighted as to adopt a policy which must destroy or greatly impair the value of their home-market. We fully believe in the substantial identity of the interests of the Wool Growers and the Wool Manufacturers of the country. And we are pleased to see in the report of the secretary, and in the resolutions adopted by the association, a recognition of this principle so open and apparently hearty as to confirm our hope that the fears of wool growers about being "sold" in their late agreement with the manufacturers are entirely groundless. Manufacturers, mechanics and merchants are beginning to understand that they cannot long prosper unless farmers prosper.

The Secretary's Report, though written in the first person, was unanimously adopted by the association. We need not ask the attention of our readers to the following extract from this report, or to the resolutions which follow, for which we are indebted to the *Rural New Yorker*, as we have not as yet received a copy of the printed Report:—

A result of the recent tariff on wool and woolens, which cannot fail to be encouraging to the wool-producing interests of the country, is the apppreciation which it has tended to produce of our domestic wools. The effect of the recent tariff, in directing attention to American wools, is greater than ever anticipated by manufacturers. In all establishments where foreign wool was formerly largely used, manufacturers have been induced to make new applications of domestic fleece which they would never have dreamed of but for the change in the wool duty. Some indication of the extent to which American wool has been substituted, is shown by importations at the port of New York, given from official sources. For the first six months of 1866, the clothing wool entered at New York amounted to 23,692,043 pounds; and for the first six months of 1867, 4,366,183 pounds. To come to more direct illustrations: I am informed by a manufacturer of worsted yarns, consuming 10,000 pounds of wool per week, that before the imposition of the duty on Canada wool, he made use of that material exclusively for his fabrics, as it was supposed to be indispensable. After the imposition of the duty, he experimented with American wools, selecting from lots brought principally from Kentucky; and for months he has made use of no other wool, which he finds perfectly adapted for yarns of numbers not exceeding 35. For the higher numbers, the admixture of wools of pure English blood is found necessary. The manufacturer and introducer of the admirable cloakings, of which I shall speak elsewhere, informs me, that, upon commencing this new fabric, it was supposed that the most expensive Silesian wools would be required to equal the Austrian fabrics, which first suggested these styles. In the early stages of his manufacture, he made use of Silesian wools, costing, washed, two dollars per pound. These fabrics are now all made of American wool, without the slightest admix-

ture of foreign material, and exhibit probabty the most beautiful textures that have ever been produced from American flocks and looms. In many mills producing fine-face goods, foreign wools were formerly used for both warp and filling. Since the change of duty, American wool, in all these establishments, is substituted for the warp, even of the finest broadcloths, constituting two-fifths of the texture. The testimony which I have from manufacturers is universal—that by careful selection, the economical application of American wools may be greatly extended. Instances are not wanting in other countries of a distinctly marked national manufacture being developed in consequence of the necessity of resorting to the products of domestic flocks. The high duty in France upon foreign wools, which was fixed at 30 per cent. in 1826, compelled the French manufacturers of woolen dress goods to resort to the fleeces produced on their own soil. The protection given to the agriculturists of France encouraged them to develop the merino races supplied by the flocks of the Rambouillet, until they produced sheep of extraordinary size, and with a length and fineness and fibre hitherto unattained. To the exclusive possession of these fleeces do the French manufacturers ascribe the unparalleled excellence of their merino-dress fabrics,—the most perfect of all known textures of wool. So high became the excellence, and so great the appreciation of this wool, that it no longer required protection, as it was without a foreign competitor; hence the abolition of the duty on wool which took place in 1860, was assented to freely by the French agriculturists. It was in memory of this boon, which the flock of Rambouillet had conferred upon France, that, upon its threatened dispersion, the Empress Eugenie, in 1854, pledged herself to preserve the flock under her august protection.

Let me by no means be understood to say, that our flocks can at present supply us with all the requisite material for our manufactures. The wools of the third class, or carpet wools, the coarse product of barbarous flocks, can never be produced here, for we might as well undertake to breed buffaloes for their robes. We are still greatly deficient in very fine short-fibred wool, adapted for filling for broadcloth or face goods, as well as in combing wool of English blood for worsteds. Both of these varieties can be advantageously grown in this country, and their production will be greatly favored by the existing duties. These wools should be produced, not in place of, but as additions to, the wools now mainly grown, and which will be always chiefly in demand. The principal means of encouraging the growth of the required fine wools, is for the manufacturers to *discriminate* in their prices; and to be willing to follow the example of one of the most eminent manufacturers of fine opera flannels, who informs me that he has paid from 75 cents to a dollar per pound, while ordinary wools were worth but 50 cents, for brook-washed fleeces of this character of wool grown in Ohio. There are localities, particularly in the Middle States, where this wool can be grown to great advantage. With adequate prices, the peculiar passion for fine wool will be developed in this country, as it is in Silesia and Hungary, where the culture of noble wools, as they are denominated, is prosecuted as the most fascinating of agricultural pursuits. We notice with pleasure, that eminent flock-masters, like Mr. Chamberlain of New York, have been within the last few months adding to their importations of Silesian sheep. The diffusion of this admirable race—possessing equal fineness and shortness of fibre, but of greater size, yield, and stronger constitution, than the delicate Saxons—would be an invaluable addition to our agricultural resources. The value of sheep of English blood producing the combing wool for worsteds, is being rapidly appreciated. They are exhibited in all our agricultural fairs. The r fitness for the neighborhood of large markets,—as in such situations profit is furnished from three sources: wool, mutton and lambs,—and their adaptation for dairy and wheat farms, where small flocks can be advantageously kept, render the necessary supply of this variety of wool only a question of time. There is no question that this wool, long claimed by the English as the exclusive product of their island, can be equally well produced here. The specimens of the Leicestershire wool exhibited by Dr. Townsend of Ohio, during the recent examination of the wool samples, were pronounced by English wool-sorters to be equal to the choicest locks of England. In regard to these wools, Dr. Townsend says, in a recently published essay, "Should the demand for combing wool continue or increase, it can be produced in this State (Ohio), and other States on the Northern border, as cheaply and as good in every respect as it can be produced in Canada; and it cannot be good policy to import our combing wools when they may be so readily grown at home."

Resolved, By the National Association of Wool Manufacturers, at its third annual meeting, held in the city of New York, on the 2d of October, 1867:—

1. The present tariff on wool and woolens is as well adapted, as any legislation which can now be devised, to promote the growth and development of wool manufacturing and wool growing, and the interests of consumers and the public revenue.

2. Confidence in the stability of legislation being essential to induce the investment of capital by which agricultural and manufacturing wealth is to be developed, it is of the highest importance that the tariff policy deliberately adopted at the suggestion of those most affected by it should be persisted in, and that the business arrangements which have been made to conform to it should not be disturbed.

3. Experience having demonstrated the difficulty of adjusting the complicated relations of manufacturers with each other, and with the producers of wool, it is desirable that no change, however trivial, should be made in the present tariff, unless

sanctioned jointly by the National Wool Growers' and Wool Manufacturers' Associations.

4. The interests of wool manufacturers and wool growers being recognized as identical, further measures should be adopted to make each class familiar with the respective wants and necessities of the other.

5. Manufacturers have suffered from overproduction of particular kinds of goods. Wool growers have equally suffered from overproduction of certain kinds of wool. The wisest course for each class to adopt is to increase the variety of its products.

6. It would greatly benefit many branches of the woolen manufacture if, in addition to the ordinary wools now produced, there should be an increase in fine wools corresponding to the best Silesian wools, and in combing wools of English blood.

7. It is for the interest of the whole country that production should be increased by extending protection to all branches of industry whose representatives can show that they are not in a position to successfully compete with foreign producers.

For the New England Farmer.

CHEMICAL TERMS---No. VI.

Silica, or as more generally called silex or flint, is very abundant in nature. In chemical language it is silicic acid. It is found in quartz, flint, and in rock crystal, often beautifully crystalized, and is a principal ingredient in many of the precious stones. Feldspar, which is a leading ingredient in granite, contains 66 per cent. of silica.

Silica consists of about 48 per cent. of silicon and 52 of oxygen. It is found in the water of most springs, especially warm springs. If we evaporate spring water, we find it in the residuum. If we burn a plant we find it in the ashes. Grasses and the stalks of most kinds of grains, yield silica on combustion; and. in fact, to its presence they owe their firmness. When the soil is wanting in it, or in alkalies to render it soluble, they will bend or fall to the ground. The shells of numerous small insects consist chiefly of silica. Silica is the principal ingredient in sand. Yellow sand is colored by oxide of iron. By chemical processes silica may be obtained pure, when it will be found to weigh in comparison with water as 2.66 to 1. It combines with the bases, alumina, potash, soda, magnesia, lime, &c., and forms silicates, which constitute the largest number of the hard minerals on the crust of the earth. It sometimes combines with one base and sometimes with two. Thus we have feldspar, which is silicate of alumina and potash; hornblende, which is silicate of lime and magnesia; steatite, which is silicate of magnesia with a slight addition of alumina and iron. Silica is insoluble in every acid except the fluoric acid. It is quite insoluble in water in its natural state.

We should little expect flint to be an acid, but as it exhibits the properties of an acid, and behaves like an acid, it must be so considered.

Clay.—Clay is a compound of two simple earths, silica and alumina, generally tinged with iron. Lime, magnesia, and the coloring oxides of some other metals besides iron, are found in small quantities in natural clays. There are many varieties of clay, arising from the different proportions in which the ingredients composing them are combined, and from the presence of ingredients in one variety that are not found in another. When tolerably pure clay is mixed with water, as every one knows, it forms a compact mass, flexible or plastic, capable of being formed into every shape. Common clay contains more sand than plastic clay, and has a yellowish color, owing to the presence of iron ochre.

Water does not pass through clay as it does through sand, or through limestone earths. When a layer of clay exists beneath the soil, the rain, being unable to penetrate readily through it, accumulates above it, forming bogs and marshes. When such a layer approaches the surface near the edge of a lower level, the accumulated water bursts out giving rise to springs.

Clay has the power of drinking in and retaining a large quantity of water. This property when skilfully used gives it great agricultural value.

Thoroughly dried clay, on exposure to the air, increases in weight. This increase arises from substances absorbed from the air. These are water, carbonic acid and ammonia. Now as these are the most important elements of plant food, and as clay absorbs these from the air, it is clear that it must enhance the fertility of the soil. Loam consists of clay and sand. We speak of a clayey loam or sandy loam, as either of these ingredients predominates. A soil consisting of either sand or clay only, is without fertility. If there is too much clay, the soil is too compact and heavy, and so dense as not to allow a free circulation of air. After long rains it becomes muddy, and not allowing the water to evaporate freely, remains wet and cold for a long time. A soil containing too much sand suffers from the opposite disadvantages. Hence it becomes obvious that the physical condition of a clayey soil may be ameliorated by the addition of sand, and that of a sandy soil by the addition of clay. The properties that especially adapt clay for the manufacture of earthen ware are its plasticity and its hardening under the action of heat. Clay is a silicate of alumina, containing variable quantities of silicates of potash, lime, &c.

Alum is what is called a double salt, consisting of one part of sulphate of potassa, and two parts of sulphate of alumina, chemically united. R.

Concord, Mass., Nov., 1867.

—In Canada, flax is so profitable that some large flouring mills have been turned into linen works. Near Preston, this year, 12,000 acres were in flax. It looks a little as though cotton would be flaxed out.

For the New England Farmer.

AN AUTUMN RAMBLE.

Carrot Crop—Deep Ploughing—Is there loss of Vegetable Force in penetrating hard sub-soil?

The last day of October came to us in a pleasant interval of sunshine amid many cheerless days of autumn cloud and rain. A warm west wind blew over the brown fields, and chased the maple leaves into the shelter of old walls, or rustled among them until some protecting hedge of briar, or thorn, or barberry, interposed and turned the baffled winds away into country lanes, or down slopes of mowing land, thickly matted with luxuriant aftermath, or along pleasant valleys hazy with an afternoon of dreamy Indian summer time.

The aspect of the roads, and fields, and farms, had induced us to withdraw for a single half day from the toil and tumult of the town, and spend its hours among the scenes and haunts of quiet country life.

So far as our observation goes, it is not a difficult matter to engage a New England farmer in conversation, whether the subject be agriculture, religion, or politics.

But for this half day, your correspondent had eschewed the meanness of the one, had turned aside from the sectarianism of the other, and had determined to acquaint himself somewhat with the ways of the farmer.

The harvesters were in the fields, finishing the season's labor by reaping a plenteous reward for all the season's toil. In one lot men were at work digging carrots, with the expectation of getting at the rate of twenty-five tons to the acre. The land on which the crop was grown, had been twice ploughed in the spring, making it exceedingly light and mellow; and although the plough had not gone below a depth of eight or ten inches, there were carrots that would measure from fifteen to twenty inches in length. It was claimed that the land upon which this vegetable had grown, would, next year, be even better adapted to the production of a crop of onions than land upon which onions had this year been successfully raised; and yet the statement is frequently made by the growers of this vegetable, that onions do best when planted upon the same land during consecutive years.

It occurs to the writer whether the policy of shallow ploughing for carrots, as practiced by some agriculturists, may not be detrimental to the interests of the husbandman. Here were carrots, some of which had thrust their roots at least five or ten inches into the hard ground below the lowest point attained by the plough. Now it is a question with us whether vegetables, during their growing season, do not *labor*. The roots of these long carrots went tapering away to a very slender point. Had the ground upon which this crop was planted, been turned up by a plough running twenty inches deep, would not the force of growth, inherent in vegetables, instead of partially wasting itself in an effort to penetrate a stiff subsoil, been reserved for the development of the size and quality of carrots? Or is it possible that shallow ploughing is really a better method of procedure; and by leaving a hard subsoil from five to ten inches below the surface to impede and thwart the penetrative propensities of the carrot, is the work which the root performs turned in another direction, and finding itself in its early stages arrested in the effort to penetrate far into the earth, does development manifest itself more quickly in a circumference, and meeting less resistance amidst the loose upper soil, does that development result in an increase of weight as the product of a given area of land?

But whether the leaving a subsoil near the surface of the soil to check the deepening of the plant, with a view to reaping an increased harvest, be policy or otherwise, the result in this field was certainly very satisfactory.

But we will not tire the reader with any farther reference to the carrot crop. There were other vegetables remaining in the fields. Plots of purple cabbage made a fine show in the lowlands; and, scattered about in the different fields, the large, red skinned, flat turnip had been assigned a place on higher and mellower soil; while, farther away, on the western slope of a hillside, the cereals were represented by a field of yellow corn—or what had been such. And the yellow leaves of the maize stalk, rustling in the light autumn wind and glowing in the sunlight, imparted a feeling of warmth to the landscape, and added another item to the pleasures of an afternoon spent in the autumn fields. XX.

Salem, Mass., Nov. 4, 1867.

For the New England Farmer.

A PLEASANT WORD FROM MAINE.

Crops, Buildings, Real Estate, &c., in Lincoln, Kennebec and Sagadahoc counties.

NEW ENGLAND FARMER:—We are happy to greet you on your weekly trip, laden with so much information from our agricultural brethren. How much information can be gained by communicating with each other. We down here in Maine hear from those in the old "Bay State," as well as in all other States in our agricultural section.

With us autumn has robbed the orchards of their fruit and the forests of their green foliage. As we drove through Lincoln, Kennebec and Sagadahoc counties not long since, we were led to exclaim, "God sees all things and does all things for the benefit of all his creatures. Surely He has given us a bountiful harvest. As we passed one field the owner had just gathered an immense load of cabbages as nice as we ever saw. Corn, as a general thing, has done well except on low land, some of which has, this season, been too moist for that crop. One man informed me that he harvested nine-

ty-four bushels of corn on the cob from one and one-half acres. All along our route, people were pressing hay for market, but were not anxious to sell at present prices, which range from sixteen and one-half to eighteen dollars. They say prices will range at twenty and upwards.

At Gardiner we learned that potatoes were selling at one dollar per bushel, but we think they will sell for at least one dollar and fifty cents before planting time, as the yield was about six bushels from one, as a general thing. Through the southwestern part of Lincoln and Southwestern part of Kennebec counties, it appeared to us that farmers generally, simply tried to live, and nothing more. After crossing the Kennebec river, farming appeared to present a different aspect. Barn cellars and manure sheds frequently presented themselves to our view. Dwellings neatly painted and fences in good repair, gave evidence of thrifty and enterprising occupants. After passing through West Gardiner and Litchfield, we ascended "Oak Hill," which is composed of a sandy, gravelly soil, too dry for profitable farming in all its departments. While it is a good soil for corn and "just the thing" for an orchard, it is not profitable for potatoes or hay. But just beyond, occupying a part of the towns of Monmouth and Wales, lies the most fertile valley in this section of our State. One farmer told us that he broke up a piece of land that had been lying waste for a long time, and without manure of any kind, raised potatoes to which were awarded the first premium at the county fair. We were informed that real estate in this valley was rapidly advancing in price. One farm which was sold for $3500, in two years afterwards was purchased by its former owner for $4550. Through the whole of our drive we saw no reason why people should cry out "hard times," for on the whole God has blessed us with an abundant harvest. If we have less of one kind we have more of another, to make good the deficiency.

Wiscasset, Me., Nov. 11, 1867. C. H. W.

MANURE.—We like barn cellars to protect the manure from rain and sunshine, but there is something else to do with manure besides housing it. If you keep it housed and protected from the frost, there is an acid in it which is deleterious to the growing crops. My mode is to clean out the shed and barn cellars in the fall and pile it up closely, cover it over with loam, which protects it from the rain. Then the frost has free access to neutralize the acidity, to penetrate through all the parts, and then when it is pitched over in the spring, it falls apart and becomes fine and adapted to the growing crops. In the spring, instead of manuring five acres sparingly, we manure what can sumptuously, do not scant a hill, and the result is that we harvest good crops.—*S. P. Maberry, in Maine Farmer.*

IN NUTTING TIME.

With lingering glints of gold and red
The waning autumn woods are gay;
And in the deep blue overhead
The sun shines clear and soft to-day.

The late October winds are bland,
Their voices whisper low and sweet;
While far away the blue hills stand
With valley vapors round their feet.

Across the azure of the sky
The milky cloud-shapes, wandering, sail;
Southward the roving song-birds fly,
And from the stubble pipe the quail.

Along the winding path we go,
Through fields in which the aster nods;
And over breezy slopes where grow
The yellow-painted golden rods—

Along the path by field and hill,
With many a lightly-spoken jest,
Past golden orchard rows where still
The robin shows his crimson breast—

Until at last the woods we gain,
And there, with shout and crashing sound,
We beat the boughs till downward rain
The ripened nuts upon the ground.

All other sounds around are hushed,
There is no note of any bird;
But through these aisles with autumn flushed
Our voices far and wide are heard.

With lingering glints of gold and red
The waning autumn woods are gay,
And though the summer months are fled
Our hearts make summer of to-day.

HINTS FOR THE GARDEN.

We copy the following from the New York *Horticulturist*:—

HYACINTHS for winter blooming should now be potted.

VINEYARDS should all have the earth ploughed up toward the vines late in autumn, leaving a centre furrow for the surface drainage.

CHRYSANTHEMUMS in bloom require abundant fo. d, which is best supplied by watering them with liquid manure.

ROSES for window blooming should be potted in good rich soil, cut back freely, then kept in cool frames for a time before bringing into the room for winter.

CUTTINGS of geraniums, verbenas, &c., that were made some time since and placed in a cold frame, should now be potted off, brought into the house, and placed in a cool, shady place for a time before giving them a position for growth.

PITS OR FRAMES for winter stowing of plants should be ready. Make them two to three feet deep, and when they are well drained, place the pots in leaf-mold from the woods, give air freely and shade from hot sun; when severe weather sets in, have ready a quantity of straw, old hay, &c., for spreading over the sash.

STRAWBERRY beds planted this autumn should during this month be lightly mulched with coarse straw, leaves, cornstalks, or other

litter that will serve to shield them from sun and prevent the ground from freezing and thawing rapidly; but at the same time the mulch should not pack down on the plants to smother them.

EVERGREEN branches taken from the forest and planted in the ground among the shrubbery and grouped low over the flower-beds, serve to give life and cheerfulness to the grounds, and at the same time are a protection and shade to the plants, bulbs, &c., &c.

CELERY for winter use should be stored in trenches made the exact depth of the plant, and ten to twelve inches wide. Take up the plants on dry days only, and pack closely in the trenches. On the approach of severe frosts, cover with two or three inches of straw litter, increasing the quantity as the weather grows colder, until the covering is at least one foot in thickness.

PLOUGH or dig all ground intended for planting next season, leaving it as light and loose as possible for the action of air and frost. If clay ground, plough or dig it only when comparatively dry—the drier the better; if too wet, it will at once pack down and no benefit arise from the labor. If dry when the work is performed, the action of the winter's frosts will be almost or quite equal to a coat of manure.

UNFRUITFULNESS OF GRAPE VINES.

Overbearing, at first or second producing, is one of the great causes of early exhaustion of our vineyards. The land used for a vineyard is generally impoverished by previous croppings. The vine finds in it a few remaining constituents requisite to its growth and production of fruit; being a *voracious* feeder, it absorbs these readily and in a short time. A year or two of heavy producing of fruit exhausts the soil of nutritive elements; and the vine, finding no supply of nourishment, begins to decline in vigor and fertility; and, once stunted in growth, it seldom recuperates, even if after-treatment is such as to return a new supply of nourishment to the soil. The tendency to overbear should be checked; but how few persons have sufficient courage to cut off a portion of the branches in early spring? It is essential to remove one-half of the bunches as soon as they appear; the remaining half will be more developed, the berries larger, the quality improved, the weight of the fruit as large in the end, as if all the bunches were left, and the vine will not exhaust itself so much. By overstraining, nature fails; and it is easier for a vine to perfect a dozen bunches than to attempt to do so for double that number. Our finest specimens of fruits, such as pears, peaches, apples, &c,, are the consequence of a moderate crop of fruit upon the trees, caused either naturally or artificially, by the removing a proper proportion of the flowers, or, better still, the flower buds, as soon as they appear.—*P. J. Berkmans, Augusta, Geo., in Southern Cultivator.*

ROAD SAND AND WASH.

We have frequently witnessed the beneficial effects of the wash of the highway when properly directed upon grass fields, and have supposed that its virtue consisted chiefly in the droppings of animals that passed over it. The following article by Dr. J. S. Houghton, in the *Gardeners' Monthly*, indicates another cause of the fertility of such irrigation:—

The sand obtained from turnpikes, or roads macadamized with any sort of stones, very difficult to break or pulverize, has a peculiar value. The grinding of such rocks or stones under the iron-rimmed wheels of wagons, the wear of horse-shoes, and the mixture of this ground rock with the manure scattered along the road, produces a compound which is found to be highly acceptable to trees and plants. The granite rock, we know, is rich in potash and silica; but it is not these elements alone which give this road sand its peculiar value. By the process of grinding and triturating inert substances, such as oyster-shells, charcoal, quicksilver, we develope medicinal and other virtues which these substances do not possess in their crude form. And so it is supposed to be with road sand. By the constant grinding and triturating of the iron-bound wheels and horses' shoes, the comminuted granite becomes prepared for the use of plants; and when this road sand is mixed with the compost heap and saturated with liquid manure, it is found to help the efficacy of the compost in a remarkable manner. Under the influence of road sand of this kind alone, it is said that when applied to lawns, white clover is sure to spring up in the greatest abundance and luxuriance where it had never been seen before.

SORRY HE SOLD HIS FARM.

The Doctor says, he "never knew a man to sell his farm who did not regret it." This is perhaps stating it a little too strong. But being one of the oldest pastors in Western New York, he has had good opportunities for observation. I think men engaged in other pursuits, who buy farms, expecting to find nothing but pleasure and profit in agriculture, are generally very glad of an opportunity to dispose of them. Such men seldom regret selling. But with a farmer the case is very different. He either sells because he thinks he can buy a better or cheaper farm, or because he is tired of farming, and proposes to live in the city. In the latter case he is almost certain to wish himself back again on the farm. I heard of such a case the other day. A farmer was offered last spring what he thought a high

price for his farm, and accepted the offer, thinking he could live comfortably in the city on the interest of the money. After trying it six or eight months, he offered the purchaser $1000 to let him have the farm back again, giving him the summer crops and the wheat into the bargain. A farmer who sells, expecting to buy another farm, finds it not so easy to suit himself as he expected. If you must sell, the better plan is to know beforehand where you are going.—*J. Harris, in Am. Ag.*

TRAINING THE MULE.

We copy from Mr. Riley's Treatise on the Mule, a new work recently published in New York by Dick & Fitzgerald, the following remarks on training this proverbially stupid and contrary animal:—

Probably no animal has been the subject of more cruel and brutal treatment than the mule, and it is safe to say that no animal ever performed his part better, not even the horse. In breaking the mule, most persons are apt to get out of patience with him. I have got out of patience with him myself. But patience is the great essential in breaking; and in the use of it you will find that you get along much better The mule is an unnatural animal, and hence more timid of man than the horse; and yet he is tractable, and capable of being taught to understand what you want him to do. And when he understands what you want, and has gained your confidence, you will, if you treat him kindly, have little trouble in making him perform his duty.

In commencing to break the mule, take hold of him gently, and talk to him kindly. Don't spring at him, as if he were a tiger you were in dread of. Don't yell at him; don't jerk him; don't strike him with a club, as is too often done; don't get excited at his jumping and kicking. Approach and handle him the same as you would an animal already broken, and through kindness you will, in less than a week, have your mule more tractable, better broken, and kinder than you would in a month, had you used the whip. Mules, with very few exceptions, are born kickers. Breed them as carefully as you will, the moment they are able to stand up, and you put your hand on them, they will kick. It is, indeed, their natural means of defence, and they resort to it through the force of instinct. In commencing to break them, then, kicking is the first thing to guard against and overcome. The young mule kicks because he is afraid of a man. He has seen those intrusted with their care beat and abuse the older ones, and he very naturally fears the same treatment as soon as a man approaches him. Most persons intrusted with the care of these young and green mules have not had experience enough with them to know that this defect of kicking is soonest remedied by kind treatment. Careful study of the animal's nature, and long experience with the animal have taught me that, in breaking the mule, whipping and harsh treatment almost invariably make him a worse kicker. They certainly make him more timid and afraid of you. And just as long as you fight a young mule and keep him afraid of you, just so long will you be in danger of his kicking you. You must convince him through kindness that you are not going to hurt or punish him. And the sooner you do this, the sooner you are out of danger from his feet.

IMPORTED NORMAN HORSES.

In 1851, Dr. M. Brown, of Pickaway county, O., imported a Norman stallion from France, whose produce became so popular that, shortly after, other parties in Union and Madison counties made several importations of the same stock, which has become largely infused among the horse stock of that region. This season Dr. Brown and Mr. T. C. Bigelow have made another importation, of which the reporter of the Ohio *Statesman*, (Columbus.) makes the following mention:—

We rode out to the Four Mile House yesterday afternoon, to take a good look at the great monsters of horses imported by Dr. M. Brown of Circleville, and Mr. Bigelow, from Normandy, France. There are four of them, and they are beauties. The first in order is the premium horse, Napoleon. He is a dapple gray, five years old, is 16½ hands high, and will exceed 1,600 pounds in weight. This horse was designed for the stables of the French Government, but through the influence of Americans of high standing in Paris, the Emperor gave permission for the horse to be brought to this country. The next is a bay, the Duke of France, six years old, 16 hands high and weighing nearly 1,600 pounds. Vigorous is the third. He is a dapple gray, four years old, 16 hands high, and of about 1,400 pounds weight. This is a larger bodied horse than either of the others, and, when full grown, will be the most symmetrical of the lot. Black Robert, the fourth, is four years old, 15½ hands high, and will weigh 1,300 lbs.

OUR RECEIPT FOR CURING MEAT.—To one gallon of water, take 1¼ lbs. of salt, ½ lb. of sugar, ½ oz. of saltpetre, ½ oz. of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when *cold*, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, &c., leaving the meat fresh and clean. —*Germantown Telegraph.*

AMERICAN DURHAMS IN PUNCH.

The sale of American cattle in England, in connection with a herd belonging to the Royal family, when "Bulls brought their weight in bullion," was an event rather too funny to escape the notice of the London *Punch*. In his poetic flight, however, Mr. Punch takes large license with American geography; but then the location of Geneva, N. Y., in *Illinore*, helps out the rhyme, and being a removal of not over one thousand miles, is no greater liberty than is often taken with our latitude and longitude by more prosaic Englishmen. Here are *Punch's* verses:—

The Golden Short-Horns.

"Eight out of the nine Short-Horns of English blood, which 'Our American Cousins' and Mr. STRAFFORD have just sold back to us in a Windsor hotel, averaged nearly £410 a-piece."—*Morning Paper.*

Mr. STRAFFORD raised his time-glass,
And THORNTON held the pen,
When to a Windsor coffee-room
Flocked scores of Short-Horn men.

They crowded round the table,
They fairly blocked the door;—
He stood Champaigne, did SHELDON,
Of Geneva, Illinois.

They talked of Oxford heifers,
Duchess bulls, and how the States
Had come into the market
With another "Bit of Bates."*

Their expression is so solemn,
And so earnest is their tone,
That nought would seem worth living for
But "Red and White and Roan."

All ready for the contest,
I view a dauntless three
The MACINTOSH from Essex,
A canny chiel is he.

There's LENEY from the hop yards;
'Twill be strange if he knocks under,
When once the chords are wakened
Of that Kentish "Son of Thunder."

The Talleyrand of "trainers"
Is their cute but modest foe,
Him whom the Gods call "CULSHAW,"
And men on earth call "JOE."

He loves them "points all over,"
With bright dew on the nose;
And in his heart of hearts is writ,
"*A touch of Barmpton Rose.*"

And sure it well might puzzle
"The Gentlemen in Black,"
When the three nod on "by twenties,"
To know which you should back.

And sure the laws of Nature
Must have burst each ancient bound,
When a yearling heifer fetches
More than seven hundred pound!

Bulls bring their weight in bullion,
And I guess we'll hear of more,
Arriving from the pastures
Of Geneva, Illinois.

*The American stock was originally from the celebrated herd of Mr. Bates, of England.

The following are the names and prices of the American cattle whose sale near the Queen's farm at Windsor, is thus immortalized in song. The boys will remember that the English Pound is about five dollars.

		£	s.
1.	Third Duke of Geneva,	577	10
2.	Twelfth Duke of Thorndale,	194	5
3.	Seventh Duchess of Geneva,	735	00
4.	Fourth Maid of Oxford,	315	00
5.	Fifth Maid of Oxford,	210	00
6.	Countess of Oxford,	262	10
7.	Sixth Maid of Oxford,	420	00
8.	Seventh Maid of Oxford,	273	00
9.	Eighth Lady of Oxford,	472	10

UNDER-DRAINING VINEYARDS.

After expressing the opinion that a thoroughly well-drained spot, where the water will pass away as fast as it falls, is the one thing needful in vine growing,—more important, in fact, than location near large bodies of water, shelter from winds, exposure to sun, peculiarities of soil, mineral elements, and systems of pruning, the Editor of the *Gardener's Monthly* says: "We do not believe that the usual way of proceeding with tiles will pay the vineyardist, because there are so many localities where the soil is naturally adapted to vine growing without this, that he who has to endure the additional expense before he can grow grapes, cannot compete with the other." Instead of great expense and labor in trenching, subsoiling and underdraining, *beneath* the ground, to encourage the roots down to be rotted, Mr. Meehan recommends that efforts be made to "prepare the earth all *above the natural surface*, where the roots will be dry and warm, and near the oxydizing agencies so necessary to the proper preparation of plant food."

For the New England Farmer.

KEEP YOUR STOCK CLEAN.

While much is said about the food, its proper quantity and quality, shelter, ventilation, and treatment in disease of stock, too little is said about cleanliness. It is regarded by many as a minor point in stock management, and a laborious and expensive task withal. They associate it with the constant use of cards and brushes, buckets of water and swabs, hoes and brooms—altogether consuming a large part of every day in a dull routine of dirty work of seemingly little use. Hence some farmers let their cows go all winter more thickly coated with manure than ever were their pastures.

What can be more disagreeable and discouraging than to turn out of a warm bed some cold morning, and grope your way to the old tie-up, and take your place at the head of a long row of cows, with flanks and bags well covered with fresh dung, and tails satu-

rated with the same, all ready to leave their impression about your head; then to come to your breakfast with boots and clothes bedaubed, and hands strongly perfumed,—not with Cologne water, or Lubin's Extracts,—and talk of your fresh and nicely drawn milk, and the sweets of farming. 'Tis too bad,—'tis enough to send a thrill of disgust through one's whole body against farming. It is no wonder farmer's sons and daughters are early prejudiced against their occupations. Boys usually have to do a large share of the barn-work, and if they are compelled to work hard to accomplish a little, and wear clothes that thus bespeak their employment, they are soon down upon farming, rather than upon the manner in which it is conducted.

Now keeping stock clean is like keeping one's self clean; there is no particular merit in it, while there is much disgrace in the neglect of it. The want of cleanliness is wholly the fault of the owner. for it cannot be said that any of our domestic animals are uncleanly from choice; they all have a natural aversion to their own excrements, and if left to themselves will choose a clean, dry place to lie upon; although, from a wrong way of bringing up, some animals seem to have lost this sense of cleanliness. I have seen hogs which made no distinction between their trough, bedding, and the farthest corner of the pen. These, when young, were kept in little boxes of pens, scarcely large enough to turn round in, and never had the privilege of a yard. Others are exemplary as possible, keeping their beds, especially, very clean.

In nothing is the progress of agriculture more evident than in the construction of farm buildings. The arrangements for the comfort and convenience of our animals are beginning to receive the attention they deserve; the days of old, dark, low, narrow, damp and unhealthy hovels are passing away. Perhaps all cannot possess a model barn, but something can be done at once and by every one, at small expense, towards the improvement of stables. If any one who has for years tended cattle by elbowing, crawling, and crowding about in these old barns, could have for one winter the comfort of working in a well constructed stable, he would never consent to return to the old arrangements.

The secret of keeping cattle clean with little labor, consists in preventing their lying down in their ordure, and this depends upon the proper construction of their stablings. Their platform should be just long enough for them to stand upon, and there should be a trench or pit behind this, at least six inches deep and two feet wide. The walk behind this should be wide enough for two cows to pass each other, and a few inches higher than the platform upon which the cows stand. Stanchions are now generally preferred to halters, ropes or chains, for the simple reason that they keep cattle in their place better. In one of the model barns in this State, in which fifty head of cattle are kept, the dimensions of the stable are: length of cows' platform, four feet six inches; that for oxen is one foot longer; dung pit is seven inches deep, and two feet wide; walk or passage behind, five feet wide, and is raised two inches above the platform where the cows stand. With oxen the urine is the great trouble. To carry this off, construct the platform in two parts,—the lower half being made of strips of plank about five inches wide, and laid about half an inch apart. In this way the urine will run off into the manure trench. Thus arranged, with a moderate supply of bedding, and cleaning out twice a day, it is not much trouble to keep cattle clean. Fifteen minutes spent with the card is as good as an hour in the old hovel. It is not necessary to put on thick boots to go behind or between the cows. Some may think they are too closely confined by this method. If it keeps them clean, it is better by far than all the exercise they get in stepping forward and backward two or three feet, and in lying in their own droppings every night.

In these days of horse admiration, it is hardly supposed the noble animals will be allowed to go uncared for. Would that every man calling himself a farmer, kept his horse during winter half as clean and slick as he can keep himself while at pasture. Here, too, a little care in the, construction of stalls saves labor in grooming. Make the stall floor no longer than the horse, and raise it a few inches above the main floor, and conduct the urine away by contrivances similar to those described for ox stalls.

As for poor piggy, though doomed to do very dirty work, he expresses more thankfulness for a clean dry bed, than many a biped possessing more dignity. The idea that any hole will answer for a pig pen is intolerable. Temporary and hastily built pens are the dearest in the end. If any part is inclined to give way, piggy is sure to assist it. In fact he likes to try the strength of every part, and if the trough is placed upon the ground, he will fill it with dirt to your continual annoyance, and always takes occasion for his mischief when you are in a hurry. No place is fit to be called a piggery, which does not contain well-sheltered, dry and warm sleeping apartments, and a firmly secured trough, conveniently placed for feeding, apart from and above the yard.

The cow yard is another important place to be kept clean, whether the cows are tied up during summer nights or not. Some are little better than sloughs; they receive no other care than carting dirt into them in spring and out in the fall; there is no way of getting about them except by leaping from stone to stone, or wading ankle deep in filth. No inconsiderable amount of shouting and angry words are expended, as well as heavy blows given, over the mishaps that constantly occur in milking and yoking in such places. In looking upon

such yards I have often wondered if there could be arrangements contrived for making the work harder or more disagreeable. And could the dumb animals speak, they would emphatically declare the change from the green and sweet pastures, to a bedding for the night on a manure heap or in a mud hole, was anything but pleasant for them. Whenever I pass a yard whose owner has dry walks from gate to doors, and from door to door, and who daily throws into a heap all the droppings, I conclude that man has an eye to his own comfort as well as that of his cattle and also knows how to make manure. If any one doubts the benefit of cleaning the yards daily, let him try the plan for one season. With an extra large sized shovel it takes but a few moments each day. The increase of manure, the comfort in milking and getting about the yard, far exceeds the additional labor.

Thus it will be seen that with properly constructed stalls, keeping cattle clean is not an onerous task, neither is it a subject of minor importance; for no part of farm work requires during the year so much time as tending the stock. A small sum of money expended in securing the most approved constructions for stallings, pays a large interest in the comfort, health and cleanliness of the animals, in saving labor, and in your own convenience and satisfaction—aye, and in every way that you can estimate profit. N. S. T.

Lawrence, Mass., Nov., 1867.

For the New England Farmer.

THE GARDEN IN DECEMBER.

December usually brings to us, New Englanders, such weather as to preclude active labors in the garden; but even in this month there are some things that the observing gardener will look after. If the weather be mild there are some neglected November labors that should be attended to—all that can yet be done to advance spring work, should be done when an opportunity presents. Cleaning up, which is often delayed till spring, can as well be done now, and thus lighten the labors of a more busy season. Should the ground remain open, it may be deeply ploughed, adding a coat of manure, which will disseminate itself through the soil; while the soil if a heavy, close one, will be greatly ameliorated by the action of the frosts and winter weather. Pruning of currants, gooseberries, and grape vines may be done when not frozen, if not before attended to; the cuttings may be saved by burying them in sand in the cellar bottom, or packing in damp moss for spring planting; but cuttings made previous to freezing, are rather more sure to strike root and start quick than those that have been frozen. Now is a good time to review the labors, successes, and non-successes of the season past, and to form plans for improvement in the future.

Shall I tell you some experience in improving currant bushes, or their product? In our garden we have a row of currant bushes some eight rods long, which have stood there some fifteen to twenty years. The bushes had got to be quite large and close together. Up to two years ago, they had done very well, when they partially failed. They set quite full and a large crop was promised; but the currants were very small and when ripening withered on the bushes, so that little was realized from them. I should have said that the bushes had not been cultivated as they should have been by pruning and cultivation. Some grass had got in among them, though but little directly among the bunches. In April, 1866, I felt bound to try what virtue there was in better culture. So every other bunch was dug out, and the remainder pretty thoroughly pruned. The ground was cleaned, and new soil hauled around them. When this was done, Faint Heart said, "We shall have no currants—might as well dig up and throw away the rest." But I determined to "wait and see." A late frost caused a failure to get many currants—scarcely any that season. Not discouraged, the cultivation was kept up the past season, and now for the result: we never had larger and better currants. From the bushes left after thinning, we had nearly as many currants as we had in their best days from the whole. We had them green, for pies and stews; ripe, all we wanted to eat with sugar with our meals; made ten gallons wine; and what we cared to preserve, besides quite a quantity for the birds, &c. Faint Heart was then ready to acknowledge there was some virtue in better culture with pruning. Reader, have you a lot of currant bushes that have nearly run out? If so, you can rejuvenate them in a similar way, or by division and transplanting into better soil at the proper season. We have but few special directions to give, at this time, for the garden, and these are comprised in the general one, to do everything possible to forward operations in spring.

BEAN POLES, HOP POLES, AND PEA BRUSH, may be made to perform some years' extra service by storing them under cover. See that a supply is laid in, if needed, before the spring work advances.

PLANNING.—This is the proper season to begin to plot out the garden for the next season, and to see that a supply of seeds for each plot is provided. Are there not some one or two new vegetables you would like to add to the old routine next season? If so, now is the time to secure the seed.

SEED.—"Good seeds are cheaper at any price than poor ones free of expense." All good home grown seeds should be carefully saved and protected from any influence detrimental to their vitality. Sort, and store in paper bags, or boxes, and throw away all refuse or poor ones, or those there is any doubt about. Exchange choice kinds with your friends and neighbors. Lay aside a few of the

choicest beets, turnips, carrots, cabbages, &c., to raise seed from next summer.

WM. H. WHITE.

South Windsor, Conn., Nov. 20, 1867.

For the New England Farmer.

DOMESTIC TRAINING.---NO. 2.

Perhaps, Mr. Editor, you would not have wished the former essay "to be continued," had you known that it was written under the influence of sad experience. But I am not in the confessional, and as the subject is far from being exhausted, I am quite willing to proceed.

Mothers, are you giving your daughters a domestic education as thorough and systematic as the instruction which they are receiving at school? Are you leading them step by step from the simplest to the most difficult tasks, even as they are trained in mathematics or music? If not, then you so far fall short of your duty. It is not enough, to permit them occasionally to fabricate delicate pies and puddings, or perform some light labor which will not compromise their gentility. They should understand the duties that pertain to each day of the week, and to stated seasons of the year. They should be familiar with the harmony of the household, so that in the absence of the leader there need be no jarring or discordant notes.

The best time to lay the foundation for a domestic education is in early childhood. There is then a willingness to learn, which the circumstances of later years too often eradicate. Every one knows how anxious little girls are, as soon as they can go alone, to "help," and how troublesome their officiousness sometimes appears. Yet it should not be so accounted, even though they do hinder much more than they help. Their willingness to assist should be appreciated and encouraged, and their little mistakes kindly corrected. Such speeches as, "Do get out of the way!" "You bother me to death!" must fall rather harshly on the mind of a child who is trying to the best of her knowledge, to do some good in the world. Can we wonder that there is so much idleness and selfishness, such a distaste for housework, among those who should be able to lighten the cares of their mother, and cheer her declining years?

Let it not be supposed that learning to work will be an obstacle to their intellectual advancement. On the contrary it will tend to promote it, unless one should go to the pernicious extreme of placing heavy burdens on young shoulders, inadequate to bear them. Habits of industry and usefulness, formed at home, will be carried into the school duties, and greatly assist in their worthy performance.

There are too many idle, and, *as a direct consequence*, sullen, obstinate and mischievous children in the world. If their first attempts at assisting are harshly repelled, the golden opportunity is lost.

There are little tasks which they can perform easily, and they should be allowed to do so, even if the amount of assistance have to be expressed by the sign — minus. Their training is the mother's most important duty, and should be attended to, whatever else may be neglected.

MATTIE.

Marlboro', Mass., Nov. 18, 1867.

GRAPES IN GEORGIA.—Mr. J. Van Buren, of Clarksville, Geo., writes to the *Country Gentleman*: "My Scuppernong grapes were very fine; vines six years transplanted bore an average of three bushels clean grapes each, some of the berries measuring one and a quarter inches in diameter, and the clusters ranging from two to twenty berries each; and I would here remark that this grape differs from all others, in that the berries alone are picked or shaken from the vine and not the clusters. It is a very distinct variety, entirely unlike any other grape in vine, leaf and fruit. The Mustang grape of Texas resembles it somewhat in vine and leaf, but not in fruit. The Scuppernong is the sweetest of all grapes, while the Mustang is the most acid. The vines which produced three bushels the present year will probably produce six bushels each next year, and thus go on doubling annually for several years to come, as it is a variety not subject to any disease in vine, leaf or fruit. It blooms from the middle to the last of June, and ripens the first of October.

THE BERKSHIRE COUNTY PREMIUMS.—The Berkshire, Mass., Agricultural Society always pay their premiums in silver ware, with the privilege of exchanging any article for another in order to complete the sets. Nearly all the old families have obtained silver spoons enough in this way to stock themselves and set up their children. All those who have married Berkshire girls within the last half century will testify to the abundant supply. The result is that the Berkshire Society has a powerful hold on the hearts and purses of the people. At the exhibition just closed, a plow that took the first premium 54 years ago here, was shown; it is still in the possession of Henry Colt, who proposes to present it to the Society. It was imported from Scotland, and is all iron except the handles.—*Western Rural.*

MASSACHUSETTS FRUIT HOUSE.—Hovey's *Magazine of Horticulture* says that Bartlett pears, placed in the Fruit House, September 1, are now, October 15, in precisely the same condition as when put in, thus enabling dealers to furnish this favorite pear for three or four months. We doubt not that pears of all kinds will now be furnished at reasonable prices the whole winter. Heretofore they have been too dear for any except the wealthy to purchase.

LYCHNIS HAAGEANA.

The term Lychnis, of which the above is a new and elegant variety, is derived from the Greek for lamp, the cottony leaves of a related plant having been used as a substitute for wicks.

Mr. Breck, in his Book of Flowers, says, "the double variety is one of the most splendid decorations of the border; it is propagated only by divisions of the root or by cuttings of the flower stem. The cuttings are taken off at any time when the shoots are tender, and planted in a sandy loam, in a warm situation, but covered with a hand glass and shaded from the sun. When well established, they may be transplanted into the bed or border where they are to remain, and will flower strongly next year. There is also a single and double white variety. The single kinds are easily raised from seed. All the varieties do best in a light, rich, loamy soil. It is necessary to take up and divide the roots every other year, early in the spring. A light protection is necessary to the double varieties, to insure vigorous bloom. The flowers are fascicled, (collected in bundles,) level-topped or convex; two feet high; in June and July. The double varieties continue to give flowers until autumn.

The Lychnis Haageana, which is represented by the cut, copied from Messrs. Washburn & Co.'s Catalogue of Flower Seeds, is an elegant perennial. It flowers the first year, producing large scarlet flowers, with jagged petals, one foot high. It requires protection through the winter.

One variety of Lychnis is the well known Ragged Robin, so common in flower gardens.

PEACHES.—Two years ago we spoke of a peach crop, raised by Mr. NATHAN BROOKS of Acton, Mass., when he had just realized $600.00 from the product of less than one acre of trees. Some of the finest of them, then brought him $9.00 per bushel.

A few weeks ago, Mr. Brooks presented us a basket of this year's crop. They were of the Late Crawford variety. Average price per bushel $6.00.

His crop this year brought him $400.00, but, as was the case with all fruit, their flavor was not of the highest order. We hope the thief who stole two bushels of the best late ones, on *Sunday*, will repent of the mean deed, and restore to Mr. Brooks four-fold; if not in peaches, in some equivalent.

THE WOOL PROSPECT.

A farmer in Ohio asks the opinion of the Acting Commissioner of the Department of Agriculture upon the future prospects of the wool growing business in this country. From the reply of the Commissioner, in the last Monthly Report, we make the following extracts:—

It is manifestly *unwise* to destroy an interest of such magnitude because circumstances, temporarily existing, have diminished its profits. It is unwise to abandon it because its enemies have been able to cripple it by excessive importation during the pendency of the question of its protection. It is an old game, hitherto successful with them, first, to glut the market on the eve of the imposition of a duty, and afterwards to declare the resultant stagnation in prices to be the direct effect of the law. All the mischief has been done that can be done. The most potent element of cure is *time*, in which to consume the immense surplus of foreign wools which were thrown upon the market, primarily for the profit of evading the coming duty, incidentally for the discouragement such influx would bring upon domestic manufacture. Wool growers who hold on may expect a gradual improvement, which will be sure to follow, unless financial disturbances unexpectedly arise.

The country has been flooded with imported unmanufactured wools and woolen goods since July 1, 1865, in anticipation of an increase in the duties, which was so long de-

ferred that a ruinous displacement of domestic wools was the result. The extent of this derangement will be apparent by an exhibition of official figures of wool imports. It will be remembered that the four years of war were necessarily years of excessive importation, amounting to nearly two hundred and fifty-two millions of pounds of wool and twenty-seven millions of shoddy, and that during the last year of that period, 1865, ending three months after the close of the war and six months after such result seemed inevitable, the importation was reduced to forty millions of dutiable wool, and a little more than three millions of free wool from Canada. The reduction should have continued, as we now produce about one hundred and fifteen millions, and can add twenty millions in a single year if the business promises to pay. Instead of such reduction, an enormous increase was made, not only through the fiscal year of 1865–'66, but from July to March, 1867, when the wool tariff went into effect, as follows:—

Years.	Dutiable. *Pounds.*	Free. *Pounds.*	Total. *Pounds.*
1865	40,372,075	3,486,079	45,858,154
1866	67,917,031	1,206,234	69,123,265
Excess over 1865			23,265,111

Including the shoddy, the increase was nearly twenty-six millions. The imports of the year ending June 30, 1867, were 35,325,151 pounds, costing $5,770,083; shoddy, 5,086,187 pounds, costing $516,480. A glut in the wool market was the result, though prices did not decline, because the wool was largely held in bond in expectation of a decrease of future importation by high duties. This was sufficient to prevent a material increase of the low current prices, compelling farmers to await patiently the consumption of these foreign supplies. Nor was this all; manufacturers, as well as farmers, were to suffer by an equally excessive importation of woolens—in fact, an unprecedented influx, *almost equalling in a single year the imports of woolens for the entire period of the war*, as the following totals will show:—

Total for 4 years ending June 30, 1865	$87,762,918
Annual av. for 4 years ending June 30, 1865	21,940,729
Imports of the year ending June 30, 1866	57,115,901

This is a sum equal to the present total valuation of the annual wool clip of the United States.

Of the fleeces imported in the year ending June 30, 1866, nearly all was in direct competition with our own styles of wool, and about thirty-seven million pounds from Buenos Ayres alone, twenty-five million pounds of which came in at *three cents* duty, and nearly all of it was clothing wool that displaced an equal quantity of the home product. Fine wools, imported in the dirt, came in at less than half the internal revenue taxes upon our own wool growers. The quantity at each rate was as follows:—

Pounds.	Value.	Rate of duty.
32,366,135	$3,522,417	3 cents.
35,211,402	5,705,293	6 cents.
8,529	2 398	10 cents and 10 ℘ cent.
330,965	150,975	12 cents and 12 ℘ cent.

Added to this was the import of woolens, costing in gold fifty-seven millions of dollars, and in greenbacks, with freight and commissions added, fully one hundred millions; the whole requiring as much foreign wool to produce it as the entire importation of *woolens for three years* of the war. Can sensible manufacturers and intelligent wool growers expect prosperity till this glut in the market is removed? That it is being removed, since the passage of the wool tariff law, the falling off in importation shows.

The facts of wool and woolen importations, and the history of the woolen manufacture in this country, show that we have arrived at a period when one of two results must follow—either domestic manufactures must mainly occupy the field of domestic supply, or foreign goods will fill the markets of the country, stop the factories, depress sheep husbandry, reduce the price of wheat and other grain by decreasing the number of consumers and increasing the number of competing consumers.

The aggregate importation of woolens for each decade, and the average per year for forty years, ending in 1860, are as follows:—

	Aggregate.	Annual av'ge.
Ten years ending in 1830	$86,182,110	$8,618,211
Ten years ending in 1840	129,334,258	12 933,626
Ten years ending in 1850	109,023,552	10,902,355
Ten years ending in 1860	282,682,830	28,268,283
Forty years ending in 1860	627,224,750	15,680,618

In 1820, when this importation commenced, manufacturing was at its lowest ebb, the value of its annual product having been reduced to $4,413,068, by excessive importations after the close of the war of 1812, from $25,608,788 in 1810; just as foreign traders, aided by American importers, at the close of the late war, and the fall of gold, have seriously impaired both the wool growing and wool manufacturing interests by flooding the country with a vast surplus of foreign woolens. While suffering a series of fluctuations, caused by more or less successful efforts to break down the barriers to over-importation, the progress of manufacturing has been gradual and comparatively regular. In 1830 the product of woolen manufactures had increased to $14,528,166; in 1840 it was $20,696,999; in 1850, $43,207,545; in 1860, $68,865,963; in 1864 a return of manufacturers, representing about three-fourths of the total number of sets of machinery, made an aggregate of $120,000,000.

With the increase of the manufacture of wool, step by step, advanced the production of wool. The census of 1850 made the clip of that year 52,516,959 pounds; that of 1860 returned 60,511,343. The yield of 1864 was estimated at 95,000,000; that of 1866, 115,000,000. The increase of manufacturing and the relative

consumption of wool at different periods may be gathered from the following statement, with the qualification that the wool importation of 1865 was less than the consumption of foreign wool for that year, while that of 1866 was far more than that year's consumption. There was also, in round numbers, four millions of pounds of shoddy in the former, and seven millions in the latter year, not counted in the statement:—

	U. S. Product, lbs.	Imports, lbs.	Total, lbs.
1840 . .	35,802,114	15,006,410	50,808,524
1850 . .	52,516,960	18,669,794	71,186,763
1860 . .	60,511,343	34,586,657	95,098,000
1865 . .	105,000,000	40,372,075	145,372,075
1866 . .	115,000,000	67,917,031	182,917,031

It is not that woolen importations are so much heavier than formerly, in proportion to population. As shown above, the average for forty years, when we manufactured comparatively little, was $15,680,618. With population doubled and foreign prices at least fifty per cent. greater than twenty-five years ago, $45,000,000 would not be a larger proportionate importation. Then we manufactured scarcely half the annual consumption; now we manufacture three-fourths, and of most goods can easily manufacture for the entire demand, so that *any* importation tends to drug the market. This is the literal fact, and the future will show how sensitive a full market is to the slightest surplus—just as a few drops will overflow a brimming glass. All the woolens imported in four years of war amounted to but $87,782,918, or $21,945,726 annually; actually a less quantity of goods than was bought for $15,680,618 annually for forty years, commencing in 1821; but in the mean time the products of our mills had grown from four millions of dollars in 1820, to one hundred and fifty or sixty millions in 1864!

For the New England Farmer.

PRACTICE vs. PEN AND INK

MESSRS. R. P. EATON & Co.:—I enclose *three dollars* to pay you for your paper from June 10th, 1866, to June 10th, 1867. Please continue to send it. More farmers by *practice*, and a less number by *pen* and *ink*.

ONIONS AND PARSNIPS.—Plant just before the ground freezes in the fall. The maggot does not injure the onion.

CORN.—Use the *plough* instead of the cultivator; it warms the land, and throws it to the atmosphere, and the rays of the sun. Plant your corn five feet apart each way. Four kernels in a hill are enough. Hoe *twice* before the corn begins to tassel.

MANURE.—Keep a year's stock of manure on hand; it is far better for all kinds of plants.

POTATOES.—Use straw, leaves, or old hay, in the hill; never put in strong manure, by which they become diseased. Spread the manure on the land and plough it in, and then plant your potatoes without manure in the hill, and they will be good!

GRASS.—Never mow your grass until the seed begins to shell, and the salmon color appears; then your cattle and horses will thrive, and have strength to work.

BARNS.—Have the roof tight. On the sides and ends, where your hay and grain are kept, let there be a space between each board, equal to the thickness of your hand. Then your hay and grain will be sweet and good, and your animals will have good *lung* food and be healthy. Tight *barns*, and *tight rooms*, and *air-tight stoves* produce a vast deal of sickness among animals, and the *human race!* The above hints are *common sense*, which is mostly needed in this age!

LUTHER S. BANCROFT.

Pepperell, Mass., Nov. 4, 1867.

REMARKS.—Are the above common sense and valuable hints any less common sense and valuable because they find utterance by "pen and ink?" Some editors and some correspondents, friend Bancroft, may well heed your caution; but there are a great many farmers who need a very different admonition—men of large and extensive experience who hide their light under a bushel, and whose dear-bought knowledge is likely to die with them. To such the appeal of the younger and the less experienced comes with great urgency for *more* "pen and ink."

THE WEEDER.

"The morn is past, and yet the weeds are thick,
And the fierce August sun pours on me burningly;
"O God," she cried, "send down that shadow quick
Which I desire so yearningly.

"*For me* the heat and burden of the day,
And a stern master who doth show no lenity;
For Him rich pleasure lands stretch far away
With groves of cool serenity.

"Above his meadows, into golden air,
The rounded knoll uplifts its green protuberance,
And ripening harvests wave and toss their hair
In golden-tressed exuberance.

"There are cool woodlands, in whose dusk arcades
The very noon-day seems of twilight emulous;
No heart wins there, but in the silent glades
The silent dews hang tremulous.

"Thro' the thick leaves the tempered sunbeams fall,
And pleasant shades are o'er the sward distributed;
There thistle-down may drift, there worms may crawl—
And I, I am prohibited.

I faint, with toil, yet keep my faith with all,
Tho' none save God regardeth me observantly;
Father," she cried, "when will that shadow fall
For which I pine so fervently?"

Then came a shadow; but 'twas icy cold,
As of some swart, dread angel o'er her hovering,
Wreathed around her in voluminous fold,
And wrapped her in its covering.

Chill tho' it was, she hailed it with a smile,
And, worn by grief and years and long infirmity,
Lay down beneath it, slept a little while,
And wakened in eternity.

EXTRACTS AND REPLIES.

WHAT SHALL I DO FOR MY SHOTES.

I have two very good shotes that have become so weak in their hind legs or the small of the back, as not to be able to stand up but a few moments at a time. Both taken at the same time and in same way. My neighbors have some in same condition. What is the cause, &c., and what the remedy? Will some one please inform me through the FARMER. S. C. P.

Enosburgh, Vt., Nov. 7, 1867.

REMARKS.—If you read and remember all that was published in the FARMER last year, in relation to pigs troubled as yours are, we do not know as we can help you at all. It was then stated by our correspondents that young pigs or old hogs are seldom or never attacked, it being confined to shotes from three to ten months old, or those weighing something like, say, one hundred pounds, and which have been highly fed. Mr. G. Hill, of Rochester, N. H., said, "on getting my two pigs home last January, I thought it would be too cold for them in the cellar under the barn. I therefore made a pen for them in the barn and gave them good feed. We soon found one of them was taken with cramp or something else. I changed their quarters at once, and gave the lame one a little castor oil on the top of some new milk. He soon came out all right. Both pigs are now equal to any others of their age. They have a chance to exercise by working over the manure, and I am not afraid they will work any too hard. My prescription for sick pigs is, give them work and good feed—enough of both kinds—and they will come out right."

From an erroneous idea that this lameness was caused by worms in the kidneys, the disease is sometimes called the "kidney worm." But after finding the kidneys and other organs perfectly sound in animals that had been troubled in this way, and after having experience in the management of shotes thus diseased, Mr. Geo. Perry, of Randolph, Vt., stated in a communication to the FARMER, that his "impression was that it was nothing more than too nutritious food and want of exercise."

Mr. Thomas J. Edge, of Londongrove, Chester County, Pa., wrote to us as follows: "Our Chester County sows which are kept for breeding, are usually fed liberally and when about four or five months old seem more liable to this disease than rougher pigs, for they seem to have the power of turning more of their food into flesh or fat." Assuming the cause of the disease to be too high feed, he says, "the disease is followed by its own remedy; for the lameness renders it difficult for the animal to get to the trough as soon as the other pigs, and of course does not (without mistaken kindness,) get its usual supply of food, and in the course of from seven to ten days, and often less, get as well as ever, and shows no bad results from the disease. The disease is not one of the kidney, but seems to be an entire or partial paralysis of the muscles attached to the lumbar vertebræ. As far as I have observed, it is invariably confined to the hinder extremities, and seems to vary much in intensity; sometimes extending to both hind legs and at others to but one.

The best preventive is less food and a liberal and regular supply of lime, ashes or other alkalies. I have firm faith in stopping the supply of food, or at least of trying this first. If this does not produce the desired effect I would give one tablespoonful of epsom salts and one of sulphur, mixed with a little bran slop, every day until a free passage is secured, when the salts should be discontinued, but the sulphur should still be given occasionally. In extreme cases coperas may be used in tablespoonful doses, once a day, for a week. In either case the food should be decreased, or I do not think either of the remedies will have much effect."

THE VALUE OF CORN COBS.

The question is often asked, Does it pay to feed cobs? Opinions differ. Some contend they are not only worthless but injurious. The results of the experiments, at the State Reform School at Westborough, published in the FARMER, October 26, furnishes the following facts relative to the value of cobs when fed to cows.

For the 20 days ending April 29, the average amount of English hay consumed by each cow daily was 16¼ pounds, of cob meal 6 pounds. The roots were the same as in the next trial. The cob meal would be 5 pounds of corn and one of cob. The average cost per day of keeping each cow was for hay, roots, and meal 24 cents and 6 mills. The cows lost in weight about one pound per day, worth, when beef is $10 per hundred, 6 cents, which should be added to the cost of keeping, making in all 30 cents and 6 mills.

During the next 20 days, the average amount of hay consumed was a fraction less than 16¼ pounds per day, and 6 pounds of Indian meal. The difference in the daily feed was 2 ounces of hay and one pound of Indian meal instead of one pound of cobs. The daily cost of roots, hay and meal per cow was 26 cents and 2 mills. The gain, in weight, was equal to one pound per day, and 6 cents deducted from 26 cents 2 mills, leaves 20 cents and 2 mills as the actual cost of keeping. This shows that it cost 10 cents and 4 mills per day to feed a single pound of cobs, which cost should be increased by the additional amount of milk obtained when the feed was free from cobs.

Another fact worthy of note may be learned from these trials, viz: that the cheapest milk produced from winter feed was when corn stalks were fed instead of English hay. This was in the trial ending February 29. On such feed the cows were thrifty, even gaining in flesh, though not so much as in the next trial at a greater expense of feed, and that English hay. So it is possible to have thrifty cows and cheap milk without English hay.

New Hampshire, Nov., 1867. P.

BRUSSELS SPROUTS.

In answer to "Inquirer," respecting Brussels sprouts, I will give my experience. Before I came to this country, when in England, I had good sprouts, the nobs varying from the size of a walnut to that of an egg and upward. The stalks were from two feet to two feet six inches high, being set thickly with sprouts from bottom to top. They were planted on very rich, moist soil. When the sprouts began to form, I broke off the large

leaves carefully up to the top bunch to give the sprouts a better chance to grow.

When I came to America I brought some seed with me, that I bought at a seed store. Whether it was the fault of the seed, or of the location where it was sown, I don't know, but I had poor success. It was sown upon a dry, sandy loam, exposed to hot suns, and I did not get any sprouts larger than a marble. It is a very delicate vegetable to raise, but when raised is very delicious. As you say, in your remarks, it is cultivated mostly for private use, even in England. Not being fully acquainted with climate or the soil at the time I first commenced with them, I lost the seed, and have not since further experimented with them. I think if the plants could be got ready to be set out as soon as the frost is out of the ground, and transplanted upon very rich and well prepared land, not too wet nor too dry, they could be made productive and worth cultivating for the sake of having a dish of greens fit to set before an epicure. Unless "Inquirer" lives in a warmer climate than I do, I presume it is too late to secure another start of the sprouts by breaking off the leaves as is done in England. E. H.

Jeffersonville, Vt., Nov. 5, 1867.

MULCHING TREES.

I noticed a statement in the FARMER that it was beneficial to protect peach trees by covering the roots. Will it do to put hay around the trunks? Will not the mice make it their winter quarters and gnaw the bark from the trees. Would it be advisable to put hay around pear trees? J. P.

West Chelmsford, Mass., Nov. 15, 1867.

REMARKS.—From our own experience, and from that of others, we have a high opinion of mulch for all kinds of fruit trees. See how nicely trees are mulched in the woods, and then think how different it is with those which stand in most of our orchards, both in winter and summer. We hear of the failure of fruit in almost all parts of New England, but in almost every locality there are men who succeed in raising apples, pears, &c. We must learn the secret of their success. Mulching, if not one of the secrets of the success of Capt. Geo. Pierce, of Arlington, an account of whose orchard we published a few week since, is one of his practices, particularly for the summer protection of his trees. In applying mulch we have not generally placed it against the trunk. Where it is so applied, it is but a short job to haul it away and make a mound of earth some twelve to eighteen inches high around the trunk, and then you need not fear that the mice will girdle the trees.

"DOMESTIC TRAINING."

"Mattie's" remarks upon "Domestic Training" were so good, I could but echo the editors' hope that they might be "continued." Judging from the tone of her remarks, we should conclude Mattie to be a notable house-wife, although her modesty deterred her from giving her own way of doing work. Will she not favor us with some of her own experience? That an unskilful housekeeper works herself ill, in doing what a skilful one would call an easy task, we all know. How many times we have seen it exemplified; and I, for one, have seen it in my own house work. Although taught by a judicious mother, and feeling when married quite accomplished, I have found to my sorrow that *experience* is the best teacher, and I will venture to suggest one point upon which young house keepers may meditate—*doing too many things at once.*

When young, ambitious, and inexperienced, we try to wash, bake, and iron in one forenoon. Now it may seem very plausible theory, that by so doing we save wood and time; but ah, the wear and tear of mind and body far out balances the saving of wood or time. Dinner time finds us *heated, fretty*, and unfit to do the honors of the table, and night finds us exhausted and care worn, discouraged and *blue*, even if we can say, "I have done a good day's work."

Woman is very much inclined to work under excitement. Let her learn her own disposition, the strength of her own body, and govern herself accordingly. System and order must be learned by experience. Each day brings its duties. Let them be faithfully performed *every day* and no more, and then the strength will be husbanded for the next day's work. Overwork *to-day*, and *to-morrow's* work must be neglected. Then another hard day will be the result to bring the "work up," and so the housewife will become worried and care worn over the same work that a steady, every-day worker would enjoy. The education may be all right, and still the woman fail to make a good wife. Practice makes perfect. SARAH.

West Amesbury, Mass., Nov., 1867.

LICE ON COWS.

I wish you would send through your paper a receipt for the best thing to kill lice on cows. I have tried tobacco and chamber-ley, snuff, sulphur, &c., &c., steeped together and it don't kill them.

Franklin, Mass., Nov. 10, 1867. J. JORDAN.

REMARKS.—A judicious application of *unguentum*, thoroughly rubbed in with the hand, *never* failed to destroy vermin on cattle when we have used it. Use a very little at a time, and rub until every hair is touched with it. The cattle ought not to be exposed to rain or cold while it is being used. Unguentum is a powerful and rather dangerous application. When lice and their eggs have got a strong hold it is a very difficult matter to exterminate them, and it can be effected only by the repeated and thorough use of medicine. "Your prescriptions are all correct, only double your doses for such a powerful constitution," said an old practitioner, who was called to consult with a young doctor who attended a friend of ours in a violent attack of fever. This may afford a hint to our correspondent to double the *thoroughness* of his applications.

A BOUNTY ON WOODCHUCKS

Would remedy the evil a correspondent complained of in the FARMER, a few weeks ago. Every where that the dog law is enforced, dogs grow less, just as the framers of that law desired. In New Hampshire, as well as in Massachusetts, woodchucks have increased in numbers until we cannot raise peas or beans beyond a stone's throw of the house. Hence beans have been scarce and costly. It would be unwise to return to the first evil—dogs—to remedy the present evil of woodchucks; an animal so easily destroyed by traps and guns. It was an act of the wise men to offer a bounty for crows—the farmer's friends; an act of wiser men repealed it for reasons that would ostracise the woodchuck. Let the dog-tax be used to pay the bounty on the woodchuck's head. It is but right, if the protection given the wool grower by the dog law is indirectly a burden upon all other farmers, that the income from the wool growers'

protection should remunerate the other class. A small bounty would bring out every boy in trowsers, with a trap. Traps, guns, and dogs—for dogs are not extinct, tax notwithstanding—would soon make room for beans in the back fields.

New Hampshire, Oct. 28, 1867. A SUFFERER.

BRUSSELS SPROUTS.

Since we wrote you in October concerning this delicious vegetable, and when we despaired of having much success with them, we have met with better luck than we expected. We took off the upper leaves near the top, and at each joint the little heads came out plentifully, so that our table has been pretty well supplied with them, and in much greater abundance than we expected. The cows seem to prefer the leaves to the cabbage. We did not plant our seeds till rather late, but the plants are hardy, and stand the frosts which we have yet had, as well as the cabbage. They may not be very profitable for marketing, but we think they are hardy enough for our climate, and easily cultivated, and we cannot see why every one who has a garden, and wishes for all varieties of vegetables for his own use, should not have them in abundance. They are very delicate and tender for cooking, quite a refinement to the taste on the best of cabbages; but true to their nature, like the cabbage, you cannot cook them without having it known "all over the house" what is in the pot, by the odor they emit. We hope to indulge in a mess or two more this season from our experiment, and we are encouraged to have all we want another season. INQUIRER.

Massachusetts, Nov., 1867.

TO KILL RATS.

Roast fresh meat on a fork, keeping hands off, to prevent scenting it with your own effluvia, and while hot cut into pieces of the size of a walnut, still using your fork,—then cut small gashes in each piece, and put in one-third or one-half of a grain of strychnine to each piece and leave it where rats can get it,—and place water within a few feet of the poisoned meat. R.

Vermont, Nov., 1867.

REMARKS.—We cannot publish the above without a word of caution about using this most dangerous of all poisons. We have heard of a person being thrown into fearful spasms by picking his teeth with a pen-knife that he had used in putting strychnine into meat, as advised by our correspondent. Try cats, instead of poison.

OKRA.

Can anything be done with this vegetable in this climate? A year or two since we saw a fine plot of the okra in full bearing on the Hudson river in New York, and were regaled with its soft velvety taste. It seemed to us then as if a soup was good for nothing without it. We tried to raise it this year. Our plants started pretty well, but came to nothing. We did not raise a single pod. Whether we planted too late, as we are inclined to think, or whether our climate is too cold for them, we cannot tell; but somebody has experimented with them here enough to tell, we presume, and we should like to hear about it. INQUIRER.

October, 1867.

RECEIPT FOR CURING HAMS.

The readers of the FARMER may cure their hams nicely by the use of the following:—

Pack the hams, shank end downward, giving each piece a slight sprinkling of salt, and then pour over them when cold a brine made of 7 lbs. salt, coarse Western or Canada, dissolved in water and thoroughly skimmed before boiling, to each 100 lbs. of meat. The hams should remain wholly covered in this brine from 4 to 6 weeks, or until properly salted for cooking, then removed and dried and smoked. Having used this recipe for some years, I recommend it to, all desiring a simple, cheap mode of curing hams so as to make them tender, sweet and juicy, without the use of saltpetre, sugar, or other ingredients. Try it.

Essex, Vt., Nov. 20, 1867. S. G. B.

GERANIUMS.

There are but few more ornamental plants than geraniums and they can be easily raised and in great variety. You can propagate them by cuttings, but we have had good luck with the old plants. Last fall we took up our plants, which had grown to a good size, the old scarlet variety, shook off the dirt and hung them up in the cellar. In the spring we set them out, trimming off the ends. They soon began to grow, maturing a large, thick, round head, and continued to flower during the summer and until it was time to take them up to avoid fall frosts. They are now in our cellar as fresh as ever, and we expect good service from them another year. To keep geraniums in flower all the season, as soon as each flower begins to fade, cut it off, and its place will be supplied with others as long as the season lasts. INQUIRER.

Massachusetts, Nov. 4, 1867.

JERSEY HERD BOOK.

Is there a Jersey Herd-book? If there is, where is it kept? A. P. W.

Cincinnati, Ohio, Nov. 11, 1867.

REMARKS.—A pamphlet edition at $1 per copy was published some time since by John Brooks, Esq., of Princeton, Mass. A new and enlarged edition is to be published next May.

TO KEEP CIDER SWEET.

A few days after it is made, or when worked to suit the taste, put two quarts of horse radish roots pounded fine, into each barrel of 31 gallons—using this proportion of roots for a less or greater quantity of cider. B.

Essex, Vt., Nov. 20, 1867.

AGRICULTURAL ITEMS.

—An Illinois correspondent of the *Country Gentleman* calls sorghum syrup "disagreeable stuff," at best.

—Last year corn was selling at Clarksville, Ga., at $2 per bushel; it is now worth only forty cents. Other crops in about the same proportion.

—The easiest and most effectual plan to protect trees from mice is to bank up the earth around the trunk a foot or so high.

—In the Department of the Loire, a French girl won the prize for ploughing against six able-bodied young men.

—Much is wrong when three-fourths of the butter in market brings ten cents a pound less than the other fourth.

—For cracked and sore hands caused by exposure to cold and wet weather take two ounces of sweet or olive oil; warm it over a slow fire; add

to it a lump of beeswax the size of a walnut; thoroughly dissolve; apply freely every night. It will keep the hands soft, and is healing.

—In Minnesota the Red Astrachan apple proves tender when cultivated and not mulched, and perfectly hardy when well mulched the year round.

—A cheap way of saving rain water is to take any old cask, coat the outside with coal tar, sink it in the ground, bedding the bottom and sides in clay well packed and at least six inches thick.

—Forest leaves are worth more than straw, and they give to manure the character of mold from the woods. They have no superior for the covering of flower beds, for frost does not go straight through the leaves, it must crook around.

—The only fruit which grows in every climate is the strawberry. It is the only fruit which somewhere on the earth is picked every day the year round.

—Old animals of every kind are unprofitable, and should be got rid of before they become so deteriorated in value as to be difficult to sell even at a very reduced price.

—Poor feed makes poor cows. When we hear of a cow that gives milk in unusual quantity or quality, we set it down for certain that her owner is a good feeder.

—A Northern man who recently emigrated to Jefferson county, in the lower Valley of Virginia, made 1500 pounds of honey from 50 bee stands last summer, which he sold for $450.

—In Germany, seed wheat is changed from high and poor land to low and rich land. The seed of the first has the most vitality, and makes the best bread.

—If the best time to engage in a business is when others are leaving it, the present is a good time to buy sheep, says J. Harris, in the *Agriculturist*.

—On some of the Western prairies which have been considered uninhabitable for want of fuel, peat is found that can be pressed by machinery into good fuel.

—When the cold, wet weather of autumn comes, men and boys put on thick shoes or boots. But women and girls hardly ever make any change until winter comes in dead earnest, and very frequently not then.

—It is advisable, in the construction of poultry houses, to use pine lumber—the more pitch it contains the better—as this is very offensive to poultry vermin. Some think it pays well to make the roosting cribs of pine boughs as a protection from their greatest enemy—lice.

—Dr. D. Walsh, of Rock Island, Illinois, well known as an entomologist, says that all his examinations have resulted in the conviction that the black knots on the plum tree is the effect of a fungus, and is not a disease nor a gall. He thinks the spores or seeds are formed about the end of July, in latitude 40 deg. 30 min., and therefore if the excrescences be all cut off and destroyed by the early part of July, an effectual stop will be put to their further spread.

—The roots of perennial flowers should be protected during winter by a mulch of light manure or dead leaves. Nature affords protection to the roots of trees, shrubs and plants, by the fallen leaves. It is a great mistake to remove them for the purpose of making a place look neat.

—A Southern writer says that the Bermuda grass will renovate old worn out lands in time, stopping gullies, and covering the galled and scarred spots of earth with its mantle of green, where all other things refuse to grow. He also says it can be controlled and subdued by proper cultivation.

—How easy it is for the rich farmer, who can ride around his improved acres, and gaze with delight on his heavy crops, his blooded stock, and his first class implements and labor-saving machines, to say to his less fortunate neighbor, "*Why don't you* do this, that, or the other thing?"

—In New Brunswick the beech has been used with good success as a hedge plant. The *Maine Farmer* is convinced that it would yield readily and without detriment to the treatment necessary to form a good, compact hedge, of any form desired.

—A Georgia correspondent of the *Southern Cultivator* says, what with frosts and borers, and yellows and rot, the peach, our most delicious fruit, has become so uncertain that many have given it up. The pear is not much better. After all, the apple is the most reliable of all our fruits; but Northern trees are not fit for Southern culture.

—The following rule for ascertaining the number of bushels of apples, potatoes, &c., in bins and boxes, is recommended as simple and accurate: for the number of "even" bushels, multiply the number of cubic feet in the bin by 8 and point off one decimal. For "heaped" bushels, multiply by 8 twice and point off two.

—The soil exhibited by Hon. Marshall P. Wilder, at the American Pomological Society's meeting in St. Louis, as the best grape soil of the Rhine, was a hard, tough, yellow clay, the like of which may be found in many places along the south shore of Lake Erie, and over the hills of Hermann, Bluffton, and other points in Missouri.

—S. J. Woodman, of Chicago, Ill., writes to the New York Farmer's Club, that a barrel or a cask of new sweet cider, buried so as to be well covered with fresh earth, will turn to sharp clear, delicious vinegar in three or four weeks, as good as ever sought affinity with cabbage, pickles, or table sauce.

—A correspondent of the New Hampshire *Farmer* says: Repeated trials on as many different pieces of land, and each trial a complete success, have convinced us that December, the time that we

invariably cut brush, is the best season, as at that time the growth of the year is evidently at an end. A piece of valuable pasture land of ours, overrun with bushes which had been many times cut over by a former owner to no purpose, because cut in the summer season, was by us cut over in December, 1861, and to this time, a period of nearly six years, not a bush has sprouted or started, and the land, though moist, is well stocked down to grass.

—The Leicestershire, Eng., Chamber of Agriculture, after long deliberation, has declared against intellectual improvement among the agricultural class, on the sole ground that they would be rendered less efficient as laborers. It therefore opposes the education of the children of agricultural laborers.

—In reply to an inquiry as to the best time to plant nuts for growing trees, the Germantown *Telegraph* says it should be done as they come from the burr or pericarp, and, of course, before they get dry. This includes the chestnut, the shellbark, walnut and acorn, as well as some seeds like the paw-paw, &c. Hence they must be planted in the fall.

—Accounts from Austria are to the effect that swarms of poisonous flies have appeared in Transylvania, by which large numbers of the cattle have been killed. Farmers are compelled to house their stock closely, while large fires are kept burning night and day around barns and sheds to warn off this new and unwelcome pest. The guards have great trouble in avoiding their venom.

—A gentleman of Nebraska, writes: "I have been troubled for three seasons by ewes eating their lambs. Last year, I found out the guilty one, and knocked her in the head; she was eating the lambs of other ewes. I thought I was rid of the trouble, but this season it appeared to be as bad as ever. I killed the one I caught at it, but that does not seem to prevent the difficulty. They eat off their feet as soon as they are born."

—The forests in France are under the care of the Government, and under the new laws for their protection they have increased nearly one million of acres. Less than one-sixth of the area of the kingdom is covered with wood land, while it is estimated that from 20 to 25 per cent. of a country should be covered with forest in order to secure uniformly good crops. Our forests, now disappearing, demand the attention of Government.

—Judge French, of Concord, Mass., says an established community, who have for generations depended mainly on their land for support, usually will be found to have discovered what, on the whole, is the best course of husbandry to be pursuid on their own farms. This is worth considering by those farmers who propose entirely changing their system, and by those who advise such radical changes.

—S. P. Mayberry writes to the *Maine Farmer*, "a few years since we used to cultivate amongst our apple trees, but took a lesson from nature. Now we know that forest trees drop their leaves, which serve both to protect the roots and loosen the soil. This we imitate by mulching with straw and meadow hay, which we find preferable to cultivating the soil, as it is less work and better secures the object in view."

—A correspondent of the *New England Homestead* says vermin may be driven from hen houses by the following plan. 1st, Give the hen-house a thorough white-washing, nests, boxes, roosts, and everything about the premises. 2d, Sprinkle sulphur in the nest boxes three or four times during the year. 3, Keep the floor constantly covered with sand or gravel, and clean out at least once a month. 4th, Rub lard under the wings of the hens.

—Where a wood lot is part and parcel of a farm and has "down timber" upon it, farmers will find it a paying operation to cut up and cord these fallen trees before snow storms come on. This will give the wood an opportunity to dry, rendering it better for use and more easily handled when the sleighing season arrives, if not wanted before that time. It is difficult to gather such fuel after the snow has fallen, while every day's exposure to storms renders it less valuable for market or for domestic use.

—When raising calves for cows, the greatest care is necessary when they have their first calf, as everything depends on the habits which they then acquire. Also, about the time they are going dry, for the longer they can be kept in milk then, the longer they will give milk thereafter. They should be milked perfectly clean at every milking, and if in the winter time, a few turnips or potatoes should be given in addition to their other food, to increase the flow of milk.

—Levi Bartlett, of Warner, N. H., writes to the *Country Gentleman* that "the growth of our wheat straw was large, and long heads; but when put through the threshing machine the farmers were disappointed in the yield, that being only about two-thirds what was expected. Oats and barley fell short in about the same ratio. Corn about an average, and potatoes less than half the usual product, while the growth of weeds among hoed crops has been remarkably luxuriant."

—The Toronto *Globe* mentions, among other dairy novelties exhibited at the late Provincial Fair, a milk can of large size, designed for carrying milk to factories and markets. It is furnished with an adjustable lid or cover, fitting the can closely and moving up and down readily. It is designed to diminish agitation as the milk is being moved to the factories or to market. No doubt such a can will prove valuable to the dairying fraternity.

—The Southern pines, *Pinus palustris*, grow from eighty to a hundred and twenty feet in height; are often very straight, and sometimes with trunks free from limbs to within twenty feet of the top.

The branches are crooked, often drooping, and terminated by bunches of long straw-like leaves, grouped in threes in long sheaths. When young, these trees have a palm-like appearance which reminds one of the Orient. The cones are very large, nearly cylindrical, and from six to eight inches long. The seeds are large and very nutritious, and are the delight of squirrels, wild birds, and poultry, which grow fat on them in their season.

WHAT BECOMES OF OUR WOOL.

As we are entirely dependent on the home market for the sale of our yearly clip of wool, and as this home market is equally dependent on the demand of the manufacturers, wool growers have a direct interest in knowing what these manufacturers are about, as it is very evident that the future demand for wool must depend on their success in improving old, and introducing new styles of cloth. We are, therefore, confident that the following extracts from the Report of the Secretary of the Association of Wool Manufacturers, will prove interesting to our readers.

During the war, the standard of excellence in our goods was undoubtedly far too low, and discredit was thrown upon our national production. Home competition, the inevitable result of protection, is now for excellence; and the vast improvement exhibited the present year is the subject of universal comment and surprise with the leading merchants. The leading organ of the dealers in dry goods—the *Economist*, a well known free trade advocate—declares as follows:—"It can be truly said of our manufacturers this season, 'they have made wonderful progress over last year.' Such continued improvements in the manufacturing of woolen goods will soon place us beyond the fear of rivals, and cause our products to be imitated the world over; as our most choice styles and salable patterns are the result of American ingenuity, both in coloring and in style. As the admissions of an opponent are legitimate testimony, we may fairly quote in this connection the declaration of the same organ, that 'a great impulse has been given to domestic manufacturers under the influence of the high tariff, and the result is seen in the splendid display made by our woolen mills.'

Our progress has not been limited to improvements of old fabrics in style or economical production. Many new fabrics have been successfully achieved. Among the notable examples of recent introductions, may be specified the silk-mixed cloths, having threads of silk incorporated with both the warp and filling; adding strength to the texture, and giving agreeable neutral shades to the surface. It is admitted that the American products of these goods, which are largely consumed, fall short in no respect of their German prototypes. The introduction of these goods is interesting, as aiding in the development of a kindred branch of American manufactures, all the silk used in these goods being spun in this country. The consumption of silk is by no means inconsiderable; that consumed by one manufacturer, for this class of goods, exceeding annually $80,000 in value. The silk and wool manufactures are united in another fabric of great beauty, largely made in Connecticut,—the Irish poplins, composed of worsted filling, which is covered completely by a warp of silk. This beautiful addition to our products of luxury, it is hoped, is the harbinger of a broader extension of the silk manufacture, which needs only sufficient protection to take its place in this country with the manufactures of wool and cotton.

The great perfection which we have attained within the last two years in the manufacture of the class of cloths styled Esquimaux beavers, for overcoatings, is worthy of especial commemoration. Five years ago, all the goods of this class, consumed in this country, were imported. The cheapness and excellence of the goods of this class recently fabricated here, have led to the exclusion of the foreign product. The goods of this class, manufactured by the Germania Mills, exhibited at the Paris Exposition, received the award of a medal of high class.

Marked improvements have been made within the last year or two in the production of knit goods. Until quite recently, the manufacture of shaped stockings, shirts, and drawers, made abroad wholly on hand machines, has not been attempted here. An American machine now performs automatically the narrowing and widening of the best class of knit goods, which is done elsewhere by hand. A great difficulty in the manufacture of knit goods has been the seaming, which, when done by hand, involved the distribution of the work to the homes of the skilled women by whom the work was finished at great cost. Within the last year, a machine has been perfected by American ingenuity for seaming automatically. In one establishment, a hundred little girls are employed on these machines, earning from a half a dollar to a dollar a day, and accomplishing the seaming more perfectly than it was ever done by hand. Thus a completely shaped knit article is produced entirely by power, equal in all respects to the goods of the most celebrated English makers; while the American goods are afforded at materially reduced prices.

Of recent novelties in our manufacture, the fabrics which have attracted most admiration are the cloakings, so largely introduced during the present season. Even experienced manufacturers are astonished by the new range which is given to the application of woolly fibre, by the surprising variety of styles and effects obtained, and that they are capable of being produced by machinery. The models which gave the idea of the fabrics produced here, originally conceived and executed in Austria, under a protective system of over 70 per ct. first appeared at the London Exposition in 1862, and were regarded as marked features of the Exposition. To the genius and enterprise of a young manufacturer of Rhode Island, is due the conception of re-producing the Austrian inventions in this country. He was able to carry his conception into practical execution, by personal observation and actual labor in the Austrian mills. Not content with imitation, he introduced new styles and textures adapted to American wool; and the goods now produced by him, and by other manufacturers who have followed his example, although purely American in design, are in no respect inferior to the foreign models; while they are sold at from two to three dollars less than the price at which the imported goods can be afforded, —the American goods being woven by machinery, while the Austrian goods are woven by hand.

While, in the department of clothing-wool fabrics, every field seems to have been explored in this country, that of combing wool is still limited by the want of raw material. We have encouragement in this direction, from the successful working of mills in Rhode Island and elsewhere, producing Italian cloths; and the establishment of another in Lawrence, within the last year, for the

manufacture of styles of worsted dress goods not before attempted. I am confirmed, by the opinions of several manufacturers, in the belief, that there is a favorable opening for a new application of our longest-fibred American merino wool, in the production of the fine all-wool merino dress-stuffs, produced at present only in Europe; but so largely produced there, that, in a single establishment in Reisenberg, Bohemia, 12,000 persons are employed in this manufacture. As these goods are admirably adapted for printing, the introduction of this manufacture would be greatly favored by the perfection to which the art of cotton and delaine printing has attained in Rhode Island and Massachusetts.

HOME MADE FERTILIZER.—Mr. H. W. Risley, recommends in the Georgia *Southern Cultivator*, the following formula for making "guano," which he says he adopted "during those sad years of war, when he was obliged to make his living out of the earth by the sweat of his brow:"—

First gather any quantity of swamp muck into a pile to dry. Measure off 6 barrels of this (or any other rich black earth) into another pile, and add the following salts previously dissolved in a barrel or more of water, viz: 40 pounds nitrate soda, 60 pounds sulphate ammonia and ¼ bushel common salt. Then add one barrel of ashes, one barrel of Plaster of Paris and one barrel ground bones. Mix all well together and use in the same manner as Peruvian Guano.

AQUARIUMS.—Aquariums are now so well understood, as to be in a fair way to become essentials in the room-gardening of all persons of taste. Growing plants, fishes and water reptiles are placed in the same globe or tank of water, and the gases which the fish reject are the food of the plants; while the plants, on the other hand, prepare the elements necessary for the health of the fish. By this beautiful principle of reciprocity, both plants and animals remain in perfect health, without the water scarcely ever being changed. A tank for plants and animals might form the base of a pretty parlor ornament, a central portion consisting of a case for ferns and similar plants, and a cage for birds on the top.—*Gardener's Monthly.*

TO KEEP CIDER SWEET.—Of the various preparations used for this purpose, I have had some experience with sulphite of lime and white mustard seed. Treated with the lime, the cider soon becomes flat and insipid. The mustard seed I much prefer—½ lb. to a barrel—put in when it has about half done working. It gives it a sprightly, agreeable flavor, which it retains until warm weather. Both of these methods, however, spoil it for vinegar. With the mustard seed it becomes thick and ropy during the heat of summer.—*F. Curtis, in Country Gentleman.*

NICOTIANA MACROPHYLLA VAR. GIGANTEA.

With the aid of the cut, there will be little difficulty in translating this much of Latin, which we copy from the books as descriptive of our illustration. Though Shakspeare gave it as his opinion that by any other name a rose would smell as sweet, it does not follow that tobacco,

> "The stinkingest of the stinking kind,
> Filth of the mouth and fog of the mind,"

must smell just as bad in Latin as in English. Without venturing an opinion on this question, we may say that the above drawing represents the most showy of all the *Nicotiana Tabacum.* Its leaves are much larger than those of any other variety; it grows six to eight feet high, and the plants are crowned with immense bunches or corymbs of large purple flowers. Its huge foliage and stately aspect give it the advantage over most other ornamental-leaved plants for lawns or groups in the flower-garden. Mr. Breck, in his Book of Flowers, says "it may be grown in the garden as a curiosity, as well as for its leaves, which are useful to destroy insects. Its decoction, the powder of the leaves, and the smoke produced when they are burned, are

all used by the gardener in freeing his plants from insects. It would be well if the plant were raised only for the destruction of insects, rather than, as I fear is the case, for the destruction of human beings."

AN UGLY THORN.—In a late letter from Kendall County, Texas, in the *Mirror and Farmer*, Dr. Boynton notices a bush which grows on most of the land that produces the rich, juicy mesquite grass, on which sheep winter in that climate. From its connection with this nutritious grass, this shrub is called mesquite bush. It attains the usual size of a peach tree and is very like it in form. The thorns drop off from the dead branches and are scattered in great numbers about the ground. These frequently stick into the feet of the sheep and produce severe lameness, thus giving great trouble to the shepherd. They seem to be poison, as the wounds produced by them will not heal for weeks.

For the New England Farmer.

FARMING IN SHIRLEY, MASS.

Perhaps a brief account of some of the things which interested me during a late visit at the farm of Mr. A. Lawton, in Shirley, Mass., will interest the readers of the FARMER. His farm is well elevated. The soil is good for grass, grain and fruit. There are some noble old apple trees here, which are supposed to be two hundred years old,—venerable monuments of years gone by. They have been great bearers, but are not now productive, and the owner intends to put the ax to the roots, as the land which they occupy would be valuable for grass. Some of the fields on this farm are hard to subdue in the first cultivation. One of them, containing just two acres, was so full of small stones, that Mr. L.'s neighbors told him he would never get paid for the labor expended in clearing it. He set it out with hops and the first crop sold for $1000. On this field there is now a remarkably handsome apple orchard which has been set six years; the trees being about forty feet apart, and the growth this year about one yard. On the death of his father, less than twelve years ago, Mr. Lawton bought this farm, which was the old homestead, by running in debt for the whole of it. The farm is now entirely paid for, and Mr. Lawton has undoubtedly several "spare shots in the locker." It was with very good reasons therefore that he expressed the opinion that farming, even in Massachusetts, was a profitable business. Nor is he, by any means, the only one in his neighborhood who entertains the same idea. About half a mile from his residence, his neighbor, Mr. H. P. Kittredge, of W. Groton, purchased a farm about the same time that Mr. Lawton purchased his. Mr. Kittredge also had no capital to begin with. But he, as well as Mr. Lawton, has paid for his place from the sale of what his farm has produced, and is estimated to be worth from eight to ten thousand dollars—acquired entirely by farming.

Hop Growing.

About ten years ago Mr. Lawton commenced the cultivation of hops, and he sold his first crop for six cents per pound. This year he raised one ton of hops which he has sold for 62 cents per pound, amounting to $1240. These were raised, and the whole operations of the farm, which is of good size, and produced good crops of hay, corn, potatoes, vegetables and fruit, carried on with no other labor than that of himself and son, about 14 years, with a few days of hired help. The quantity of hops was only about one-half of what would be called a good yield for the amount of land. Mr. Lawton says, however, that he will not complain of the crop when the price is so much beyond that of former years. Within the last four years Mr. Lawton has sold $5000 worth of hops. Last year he returned as the income of his farm over $1700.

In the cultivation of hops, Mr. L. tried the horizontal process of training, heretofore described in the NEW ENGLAND FARMER, on one acre, this year. He likes the method very much, and intends to adopt that instead of the former plan of using poles. The horizontal process is patented and costs about ten dollars per acre. Mr. Lawton thinks that hops do not exhaust the soil any more than the ordinary farm crops, and do not require more manure. He uses a compost of mud and manure to dress with. Hops for the market are not required to be so ripe as formerly. Buyers prefer the light-colored. Consequently, it is not necessary to force their growth by so rich dressing. He says that the hop-growers in New England do not understand preparing their hops for market so well as in other States. They should be very clean and light colored.

November 26, 1867. W.

FENCE POSTS.—Around each post used in fencing, a small mound of earth should be raised, to throw off the water of heavy rains. This keeps the water from entering the post-hole from the surface. In every place where this simple plan has been tried, the posts have lasted much longer than those set in the ordinary way.

—It is estimated that at least 1000 tons of meadow hay were spoilt in Essex county, Vt., during the past season by the heavy rains. It was unfit to cut and therefore allowed to rot where it stood.

HOW TO PREVENT THE DECAY OF WOOD.

WHEN using wood for fencing, posts, rails, bars, and gates, or for implements, or building purposes, it is not only important to make them endure in order to save another set of materials, but also to save the time which it takes to construct them.

When shingles are partially decayed, they hasten the decay of the boards under them, and thus a double loss occurs. There is, then, not only the loss of shingles to be supplied, but the cost of nails, staging and carpenters' time to be added. And so it is in replacing fences

If, by some cheap contrivance, farmers could make their shingles last forty years instead of twenty, and their wooden fences in the same proportion, what a vast saving of labor and lumber would be secured. That they can succeed in effecting a very important saving we have no doubt. In the first place, it can be done by the use of *whitewash* on buildings and fences, and by other materials on wood that is inserted in the ground. On the *roofs of buildings*, we sincerely believe that $10, expended for lime, and judiciously applied, would save $500 each ten years in every village in New England. If the shingles are laid, whitewash over them annually, or at least, as often as once in two years. We know of many roofs, on some of which the shingles have been laid 40 years, that are perfectly tight, although the shingles are worn down to less than half their original thickness. In one neighborhood several roofs were covered about the same time with the best white pine, shaved, heart shingles. These were not whitewashed, and have all decayed and been reshingled! One set of buildings was covered with the *cheapest sap shingles*. They have been whitewashed every other year, and are now flat, tight, and nearly as firm as slate, at the close of *fifteen years*. Another set, upon which shingles of the same kind were laid eleven years ago and whitewashed, has roofs that are tight and in perfect order. The wash upon them is made of lime, water and a little salt, and laid on with very little care.

If the shingles are new, dip them into *hot whitewash*, and lay them as soon as they are dry. Gov. Smith, of New Hampshire, stated in the *N. H. Journal*, some time since, that he "bought hemlock shingles *fourteen years ago*, at a cost of $1.50 per M., and treated them in this way, and the roof is tight now, no moss having accumulated on them, while his neighbors in the same time have reshingled where the first quality of pine was used without any preparation." Whitewashing roofs not only saves shingles, but is a safeguard against fire.

A rule for making whitewash, given in the *Scientific American*, is as follows:—

Take a clean, water-tight cask and put into it *half a bushel of lime*. Slack it by pouring water over it boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly till thoroughly slackened. When the lime has been slackened, dissolve it in water, and add two pounds of *sulphate of zinc* and *one of common salt*. These will cause the wash to harden and prevent its cracking, which gives an unseemly appearance to the work. A beautiful cream color may be given to the wash by adding *three pounds of yellow ochre*; or a good pearl or lead color, by the addition of *lamp or iron black*. For fawn color add *four pounds umber, one pound Indian red*, and one pound *common lamp black*. For stone color add *four pounds raw umber* and *two pounds lamp black*. When applied to the outside of houses and to fences, it is rendered more durable by adding about a pint of sweet milk to a gallon of wash.

Some paints are also cheap and exceedingly durable, such as the Venetian red and Spanish brown. Buildings or fences painted with either of these would scarcely want more than one coat in a life-time. To be sure, they are colors that do not usually please the eye on prominent objects, but are exceedingly durable.

Some time since a recipe for making a durable paint was sent to the "*Societe d' Encouragement*" in Paris, which was said to have the hardness [illegible] lamp, red is

very cheap. It had then been in use five years. Its component parts are: 50 of resin, 40 of finely powdered chalk, about 300 of fine, hard sand, 4 of linseed oil, 1 of red oxide of lead, and 1 of sulphuric acid, all to be mixed. The resin, chalk, sand and linseed oil are heated together in an iron boiler; the red lead and the sulphuric acid are then added, and all carefully mixed. The composition is applied while hot. If not found sufficiently fluid, it may be made thinner by adding more linseed oil. When cold and dry it is said to form a varnish of the hardness of stone.

Another mode of preserving wood, either in or out of the ground, is by saturating it with some substance, which either fills the pores or hardens them, so that dampness and air have little effect upon them. In building important works, the Government prepares the lumber by "Kyanizing," or filling its pores by immersion in creosote or some kind of acid. A solution of blue vitriol is, perhaps, as good as anything that we can readily command.

It is easily obtained and prepared, and is cheap. About *one pound of vitriol to twenty quarts of water* will give it sufficient strength. Pine posts, soaked in such a solution, have remained firm and sound after having been in the ground eight or ten years. It is excellent to preserve the stakes in vineyards, trellis posts and small stakes used about the garden for tying up shrubbery, raspberry, and other bushes, dahlias, &c.

Seasoned posts may be long preserved by putting on three or four coats of *hot coal tar*. All the parts that touch the ground, and for six inches above, should be covered. This will be worse than nothing unless the post is *seasoned*.

A LARGE GRAPE VINE.—Mr. Stewart, Orford, C. W., has a Clinton vine 70 feet long—that is, 35 feet each way from the root, running over and on an eight-foot picket fence, which hung this year with one mass of grapes from end to end. He entirely ignores our idea of cutting grape vines back to five or six feet, arguing that the leaders should not be cut at all. The vine referred to is in his garden, and has had all necessary care; and though the grapes had been somewhat injured by hail, both in bunch and berry, they would compare favorably with the Clintons I have elsewhere seen. I do not see why this should not be the best way of growing, especially for wine making.—*Country Gentleman.*

COOKING CATTLE FEED.

Some ten or a dozen years ago Mr. Thomas Horsfall, of England, published a detailed and well written statement of his plan of cooking the feed for the cows of his dairy, which was quite generally copied, either in whole or in part, by the agricultural papers of this country. His success in economizing bean and oat straw and other coarse, and when uncooked, unpalatable articles of feed, attracted much attention both in England and in the United States; and in both countries many farmers have experimented more or less thoroughly with cooked feed, but so far as we have been able to ascertain, without developing any very satisfactory results. Even in England where labor is comparatively cheap, and capital abundant, very few farmers have realized the success claimed by Mr. Horsfall, or by the speakers at one of the evening meetings during the late Fair of the New York State Agricultural Society at Buffalo, some of whom claimed that the value of feed was doubled or tripled by cooking.

This subject was not long since discussed at one of the stated meetings of the Royal Agricultural Society of England. From the report of this discussion we infer that it was generally admitted that there was some gain in cooking feed for fattening animals, but the question was, whether that gain was equal to the cost and trouble of cooking. Thus much even some of the members appeared to be unwilling to admit. The following statement was made by a Mr. Lawes:—

Anxious to try the effects of cooking, he last autumn ordered 10 beasts to have 2 lbs. of bean meal boiled and poured over the chaff, which was to stand 24 hours; 2 lbs. of cake were then added to the mixture, and it was served out. Of those ten beasts, however, one obstinately refused to eat the mixture; it was a white bullock with a black nose, and decidedly the worst of the lot. It so stoutly resisted the mixture that it would even eat the straw turned out from the cart-horse stable rather than the prepared food. It was then ordered to have the bone meal unboiled, but still mixed with straw that had been moistened the day before, and with a small quantity of malt combs; and at this moment that very animal which had been the worst of the ten was by far the best. It weighed at least 8 stone more than those which were of the same size at Michaelmas, 1 cwt. more in live weight than the smaller animals when they came in, and 56 lbs. more than any other beast in the lot.

Another question was as to the quality of the meat produced by the animals kept on cooked feed.

On this point, the same gentleman was disposed to think that the quality of the meat

was inferior when the food was cooked. We all know that it is a common practice for New England farmers to feed their hogs on corn at least a few weeks before killing "to harden up the pork." Mr. Lawes said:—

If pigs were always fed on boiled Swedes and meal, although they might increase very fast and be very profitable to the seller, still it would be found out by degrees that the quality of the pork was bad. The butcher would ultimately refuse to buy, and would say that such pork, to use a common expression, "boiled away." All animals as they fattened had a certain amount of water displaced; that was to say, they contained less and less water: but if they were fed with boiled Swedes and meal, the water would increase as well as the fat.

Some time ago he had fed one animal on steeped barley and another on dry barley, with a view of testing the merits of the two systems of feeding. The animal which was fed on the steeped barley, increased very fast, while the increase on the other was comparatively slow. They were both killed; the loins and other parts were cooked in the establishment, and it turned out that there was much more waste in the former case than in the latter. But a new phase of the question had been suggested, whether natural cooking or fermenting might not be substituted for artificial heat. It should however be borne in mind, that all fermentation meant the loss of a certain quantity of carbon consequent on decomposition. In all food the most valuable constituent was the carbon.

If they mixed sugar or saccharine matter with woody fibre, they got a certain amount of heat together which might soften and render the latter more digestible; but that was always done at the expense of the sugar, which is one of the most valuable articles they had. An animal always eats till he has enough carbon in his stomach; he then stops. He might take double the quantity of albumen, but he would not stop until he had got sufficient soluble carbon, and the soluble carbon was the first thing to disappear in the process of fermentation. He did not think, therefore, that economy of food was to be arrived at by a process of that kind.

Mr. Dent had talked with several gentlemen who had cooked food, and most of them were inclined to give it up; but he had never yet found them disposed to abandon the system of pulping.

The third question, related to the effect of cooked feed upon the health of the animal itself. Upon this point Professor Simonds, one of the most distinguished veterinarians of England, spoke at some length.

The professor said there was scarcely any limit to the quantity of water that might enter the animal organism, if we gave food which contained a large quantity of water. Speaking as a pathologist, he believed that a great number of diseases among the lower animals arose from the bad state of the blood induced by excess of water, and deficiency of nitrogenized matter in the food. The practical farmer knew that if, in the lambing season, he gave his ewes too many white turnips, or other green food, which had grown rapidly, and contained a large amount of water, it would lead to disease and loss, whereas, if he put them on dry food, containing, weight for weight, a large proportion of nitrogenized matter, a good quality of blood was produced, and the health of the animal preserved. Admitting that cooked food had the effect of accumulating weight, to say nothing about flesh, in a certain space of time, he was inclined to think that this arose from the facility which it gave for the digestion of the food by anticipating a part of the process commonly carried on by the action of the gastric juice.

But it was questionable policy giving to an animal, and especially a ruminant animal, cooked food, for thus they might to a considerable extent supersede mastication; if so, they would supersede insalivation, and thus interfere with one of the chief processes of nature. The action of the saliva was first to convert the amylaceous parts of the food (or starch) into sugar or gummy matter. A further provision was made in the ruminant animal for stirring up, if he might so express it, the food; and a chemical change took place in its character before it passed into the true digestive stomach. There was a re-mastication and a reinsalivation; and, inasmuch as the secretions coming from the rumen were very analogous to those with which the food were mixed in the mouth, it not only remained mixed with saliva a much longer time, but was mixed with a much greater quantity of that or a like substance.

If then, by the use of cooked food they dispensed with part of the operations of nature, and sent the food quicker into the intestinal canal, they would also dispense with the process of re-mastication and re-insalivation; and he could easily understand why, although a large increase might take place in bulk, the quality of the animal might become bad. The digestive process depends materially upon the condition of the food; it is even possible, by giving cooked food, or food which was physically in the same condition with regard to fineness and moisture, to render animals non-ruminative which were naturally ruminative; that is to say, we may give them food that would be retained for a very short space of time in the rumen, pass quickly into the digestive stomach, and become subject to the action of digestion without first undergoing remastication. We should thus interfere at once with the law of nature; if we cook food at all, we ought not, before cooking, to reduce it too fine. If the straw be cut into lengths of four to six inches, a cooking process may be set up so as to convert the amylaceous part into sugar, without interfering with the functions of the rumen; but such food should be re-masticated.

He would advise that if food is pulped and mixed it should not lie too long, to undergo the process of fermentation, but be given pretty soon after it is mixed. Straw might, doubtless, be converted into palatable food, and animals induced to eat a larger quantity of inferior provender cut into chaff, by simply throwing over it a small quantity of oil cake dissolved in water. This was a common practice among farmers in Lincolnshire in feeding their horses, especially during the winter.

Upon the whole, he was certainly not in favor of the so-called system of cooking food, either for the preservation of the health of the animal, or for the promotion of the process of digestion, and was inclined to think that, by the physical alterations they might make in character and condition by cutting straw, pulping roots, and mixing a solution of oil cake with them, they would gain the point at a lower expenditure, and with much more advantage to the animal economy.

—For the last eight years I have practiced hauling hickory wood on my farm every year, and placing it where it would attract the borer moth, and then burning it with the worm in it, before the end of two years. I think I have thus kept the worm in subjection.

SHORT-HORN STOCK IN VERMONT.

An occasional correspondent, and a great admirer of good stock, lately visited the Short-Horn herd of A. M. Winslow & Son, Putney, Vt. Though he has seen much of the best stock of New England, both at Shows and on the farms of individual breeders, he says he thinks the Messrs. Winslow's herd, taken all in all, excels every thing he has seen elsewhere.

Among their herd of fifteen thoroughbred cows is Lady Sale, a very fine animal, which has taken first premiums wherever she has been exhibited; and another cow, whose name he does not mention, from the sale of whose calves thirty-six hundred dollars have been realized during the past seven years.

Rising Star, a bull six years old, weighs 2500 pounds, and is a fine specimen of the Durham race of cattle. The bull calf, Duke of Putney, by sixth Duke of Thorndale, out of Lady Sale sixth, is ten months old, weighs 10 cwt., and will be remembered by the visitors at the State Fair, the past fall, as the winner of the first premium. He was there spoken of by some stock men as probably equal to any animal of his age in the world. In color, the Duke of Putney is of a dark wine, with a few small streaks of white. One thousand dollars have been refused for the calf, and two thousand for its mother—prices that must be both comfortable to the owners, and complimentary to the stock.

One pair of their thoroughbred oxen, weighing 3800 pounds, were very fine animals.

Eight calves of a red color, with a very little white, were nice and thrifty, for youngsters. Among another lot of four calves, was a heifer for which $50 had been refused. She was very large and promising. When such stock brings such prices, asks our correspondent, "why do we not have more such herds, and more such breeders as Messrs. Winslow & Sons? Doesn't such stock pay as well as the seventeen, eighteen or twenty-dollar cows that your cattle market reporter alluded to in his last week's report?"

WINDOW PLANTS.—Window Plants should not be kept very warm at this season. They should have all the sun and air, and as little of the artificial heat of the room as possible. These remarks apply especially to Mignonette, which is very impatient of in-door confinement. Succulents, such as Cacti, are excellent window plants in this respect, as the dry air does not affect them. To keep the air about the plants moist, is one of the secrets of window-culture. Some who have very fine windows well stocked with fine plants, make glazed cases with folding doors of them, by which, when the room is highly heated and very dry, they can be enclosed in an atmosphere of their own. In such cases, ferns and mosses can be grown to perfection, and pendant plants in hanging vases give a Brazilian forest appearance to our happy Christmas homes.—*Gardener's Monthly.*

For the New England Farmer.

FARM HELP.

Although I have recently written upon this subject, I desire to add a few more thoughts suggested by reading the article and comments thereon in a recent number of the FARMER, for it is one of vital importance, and its thorough discussion cannot fail to awaken a deep interest with every cultivator of the soil. When it is freely admitted that the difficulty of procuring good help is the main cause of slow progress in making permanent improvements; that it takes away much of the pleasure of farming, and is frequently the turning point in the sale of the farm, it is high time for farmers to consult together to devise and adopt, if possible, some remedial measures. For one, I see no reason why decided improvement cannot be effected both in the supply and character of the help, by individual exertion and earnest co-operation. It may not be accomplished under the old nor under the present system. Such an entire change in the character of help demands corresponding change in the mode of dealing with it.

But farmers should remember that they are not alone in their trials with help. Since the first year of the war no industrial occupation has been exempt from the evils of which they complain. The concurrent testimony of all employers is, that although they pay extravagantly high wages, much less work is performed in a day than formerly. So great was the demand for labor, compared with the supply, that workmen had the advantage. And it can hardly be said that any craft or class of workmen rendered themselves particularly conspicuous in disregarding the rights of employers. The same spirit of independence and alertness to better one's condition has been manifested by all classes, from the common laborer up to the professional ranks. After all, this is but carrying out the spirit of the age. Time is the working man's capital, and he only seeks to make the most of it, as the man of wealth does of his investments. But the tide is setting against them. Notwithstanding the repeated strikes, and the extended and clamorous talk during the short-time movements early in the year, wages have fallen, and from one-fourth to one-third more labor

is rendered for a day's work than six months ago. In our eastern cities more men have been seeking employment during the past half year than for a like period for the last ten years. Unless the prospects of trade and manufacturers brighten before spring, a large surplus of labor will be sent out from every city and village, and farmers will find a larger number of applicants than usual from which to make selections. If the present rate of immigration continues from the old world, from the Provinces, and the Canadas, this generation, at least, will never witness another so great a scarcity.

But allowing the supply sufficient, how can the quality be improved? It is true the change from the farm help of thirty years ago is great. Since farmers cannot keep their own sons and daughters at home, they are, from necessity, dependent upon hirelings. The class which Providence has thrown in our midst constitute a much better material than is generally admitted. It is customary to condemn them for some glaring faults, while their excellencies are seldom enumerated. Now, before there can be rapid improvement, they must be better apppeciated, and a thorough knowledge of their characteristics is necessary to their appreciation. The Irish have many qualities essential in farm laborers; they have usually followed out-door pursuits at home, and come here with a natural fondness for the country and for the farmer's life, and always prefer it to the shop or factory. They are strong in muscle, and possess great endurance; they are patient and persevering under hard work. They have a love for pleasantry, enjoy a good joke, and are generally cheerful and resigned to things they cannot control, and hence are less inclined to worry and fret than some of their more active and nervous employers; nor does the somewhat monotonous routine of the farm appear to them so irksome. They are willing to hire out and serve others, and we see them performing the drudgery in our houses and in every place where hard and disagreeable work is required. They are fond of animals and are naturally good judges of stock. If they own a cow, she is almost invariably a good one; and as for pigs, they are ashamed to keep a poor one. Many of the best teamsters, coachmen, and grooms in and around our cities are Irishmen. Their gardens testify that they understand clean and thorough culture. Irish gardeners may claim some of the finest displays of flowers and choicest collections of vegetables at our horticultural exhibitions as specimens of their skill. They take hold with good courage and work out fair crops from land usually considered not worth tilling, and I think it safe to say they understand the management of wet lands better than the majority of New England farmers.

The great desire of this long oppressed race is to possess what was denied them in their native country,—a bit of land. Bank, manufacturing and railroad stocks, and even government bonds, have little attraction for them; land is first, and if means increase, it is more land and more houses. Hence in cities we see them rapidly coming into possession of whole blocks, squares and streets, and establishing homesteads all around the suburbs, and pushing out into the country to buy up our smaller and cheaper farms. Thus, while performing our drudgery, they are accumulating wealth, and gaining a social and political power, the precise effect of which it is difficult to foretel. In one sense, this foreign element cannot be said to drive out or crowd our native sons and daughters, for they willingly accept positions which we decline, and occupy land we refuse to cultivate. Having minds more plastic than the Germans or French, they are easily influenced, and more readily lay aside their old habits and customs to imitate our ideas and ways of living.

And what shall be said of their failings? Are they not too well known, and too often portrayed to be delineated here? Many of them are directly traceable to the peculiar circumstances under which for generations they have struggled. Under the inspiring and expanding influences of our institutions these fade away; others, as the lack of "the educated conscience," the feeling of individual responsibility, decision and stability of character are of a more serious nature and their correction is the work of time. It cannot be expected that people of mature life will advance much from long established habits. The greatest improvement is to be looked for in the youth. There is abundant evidence to prove that those born in this country, of the second and third generation, will give our sons and daughters a hard chase in whatever pursuit they compete.

But to give the question a more practical turn, how can this help be managed with their present attainments, without the continual recurrence of those unpleasant jars which have brought them into such disrepute? A few suggestions may be briefly stated. Besides patience and forbearance, tact is necessary; which here means judgment and plain, straitforward dealing. Let the period of contract for labor be as short as possible, never engaging any one for the season who has not, to your personal knowledge, established a reputation for fidelity. Hire strangers and those inclined to disregard the rights of employers by the month, or what is better, by the week or day. Make a brief and concise contract, unincumbered with provisos or conditions, and barter trades for recompense. Pay in cash, at stated times of brief intervals,—when pay-day arrives fulfil your agreement, if you borrow the money. In a quiet and courteous way, show your independence and their dependence. Much flattery is as unwise as constant chiding. If disposed to exhibit a hasty temper or mor-

bid sensibility, remember that a multiplication of words is like fresh fuel to a slumbering fire. Always deal generously with help; for if they see anything like over-reaching, or even fancy it is intended, they will take twice and thrice as much out of their employer. When one is resolved to break a labor contract, so far from using compulsion to make him fulfil his agreement, I should say let him go in peace. If he can really better himself, it is not generous to detain him. If in our judgment he will only lose by the change, it may not be wise to try to argue him into staying. Anything like coercion tends to arouse all that is ugly in his nature, and in all probability "suits for the enforcement of labor contracts" would bring only expense and trouble to the plaintiffs. A discontented, grumbling hand is of little profit at best, and his influence upon others is so bad that it is frequently better to pay something to have him leave.

A better way for preventing sudden leaving is the one adopted by our factories. About two weeks' pay is always kept back; pay day is near the middle of the month, but the pay is only made up to the first day of the same; if a workman quits without two weeks' notice he forfeits so much of his wages. The condition is distinctly understood by all the workmen, and is so simple and just that no one complains of it. This is the only constraining measure that mills with from one to four thousand names upon their pay roll pretend to exercise against sudden quitting. This rule could be easily adopted in an agricultural community, for help both within the house and without. Two weeks' notice would give ample time to obtain other help, and the forfeiture of two weeks' pay would prevent sudden leave-taking for mere trifles. Working out the two weeks of notice gives time for reflection, and not unfrequently the resolution to leave is changed to a desire for staying.

Another suggestion for the consideration of neighborhoods which propose to adopt measures for the improvement of the character of the help and to maintain the rights of the employers, is the keeping of a list of the names of those hands who have been discharged for gross misconduct, or have broken their contract without justifiable cause. Any farmers' club can easily propose other simple regulations for adoption by the town or county represented, and thus while the individual employer shall have the control of his own help, he will also enjoy the benefit of mutual support and uniformity of action.

Should all these hints be heeded, there will still be cause for sighing over the degeneracy of modern help, just as long as farmers depend upon cities and villages for their supply; for the requisite qualifications cannot be looked for in the surplus sent back into the country, when it is composed largely of street boys; of men of dissolute habits; of those who wish for a change; of the feeble, who seek to restore their health; of the dull, too stupid to earn a living at mechanical employments; of the indolent, too lazy to get their bread in the sharp competition of the city; and of another class who, though their attainments and habits are all that is desired, have no experience in farm work, nor taste for rural life, and who only engage in it temporarily. No, the rural districts must furnish their own help before it will assume a permanent and reliable character. This cannot be done until cottages are provided upon every farm for the laborer. In this way farmers will have greater control over their help, and more hope of retaining good hands for a series of years. The children of the laborer brought up on the farm will acquire a taste for rural life, and their early training will prepare them for efficient and reliable workmen. By providing these homes, farmers will benefit themselves, their families, and the laborer; but having, in a former article, (Monthly for August,) stated these advantages, I will not enlarge upon them now.

N. S. T.

Lawrence, Mass., Nov. 22, 1867.

For the New England Farmer.

FARM HELP.

In the article "Farm Help," in a late number of the FARMER, there is much truth. That farming is as honorable and refined as any other branch of business or profession, and much more conducive to health and longevity, is being every day acknowledged, and I see no trouble in getting over the difficulty about *help*. As to educating the foreign help up to usefulness, honesty, and regard for truth, it is next to impossible. We do not as a general thing get the *best class* of foreign labor, consequently the effort to bring them up to the standard of valuable help, and true manliness is a very hard and hopeless undertaking. Why not then turn our attention in a very much more available quarter. I would remark in this connection that the same trouble is found with female servants, at the present day; in fact, Biddy desires to be the lady of the house, and Pat to be chief head out of doors, and such will be the condition of things until one and all of us determine upon a radical change.

Let us look at the capabilities of the generally despised *negro*. As a class, they are as readily learned in any requirements desirable to make them useful members of society and consequently *good* help, as our foreign population; in their disposition, they are generally gentle and affectionate, very quick to acquire and willing to work.

I tried the experiment for a year with twenty freedmen as farm hands, on a large farm in Tennessee, in the year 1864, and though I took them as they came, used to abuse, and not kindness, unacquainted with our modern farming tools, they were very ready and anxious to learn, and in an incredible short

time were masters of every new tool placed in their hands.

Again the black man as a slave has been accustomed to *tend* ten acres of cotton or tobacco. This is no fancy sketch, but the truth—*ten acres*. He does not require, as with us, a boy or a man to drive while he holds the plough, but laughs at the idea that one man cannot hold and drive. I will grant that the negro is apt to be lazy, but not so much so as some white laborers it has been my fortune to fall in with. Owing to the condition of servitude in which during all their lives they have been kept, they know their place.

As to education, give the negro a book and directions how to go on, and he is very apt at learning. These remarks apply to both males and females. No sensible farmer leaves his hands by themselves to do the work on a farm, but looks after and superintends it himself, so that any shirking or laziness on the laborer's part is very readily seen, and by being more or less of the time about, help will not be so apt to *laze*. The negro is very susceptible to kindness and *praise*.

My remarks are not *guess* work, but gathered from *actual experiment* and observation. Why, then, may not the farmers in certain localities rid themselves of their prejudice as to race and color, and join in getting negroes, both male and female to do their work, much better, and at less cost, than in hiring Tom and Dick as they come along.

It has been for some time my conviction that black help can be employed usefully, economically and satisfactorily on our farms.

F. COPELAND.

West Dedham, Mass., Nov. 27, 1867.

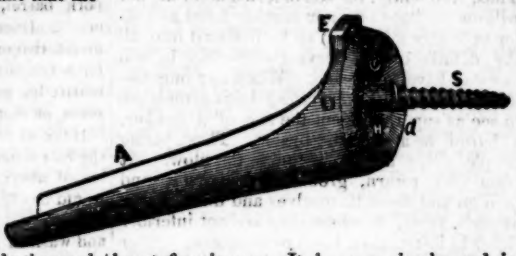
ASSORTING FRUIT.—We have often urged the importance of selecting the best specimens for market—especially so with the larger fruits which may be easily picked over. As additional corroboration of our views we give the following brief quotation from the published proceedings of the American Pomological Society at St. Louis:—

Dr. Claggett dwelt upon the importance of proper transportation, and said that of the fruit brought to market two-thirds would bring more money than the whole, if one-third were at home. A shipper would make money by gaining a reputation for putting up only perfect fruit, and giving all the imperfect fruit to the pigs.

—The *Rural New Yorker* says that a gentleman of Rochester has succeeded in checking the blight on his quince trees by removing the surface soil about the roots and applying a liberal supply of salt. It also added greatly to the productiveness of the trees.

LIVERMORE'S SAP SPOUT.

The annexed cut represents a recent ingenious and very cheap invention of R. F. Livermore, of Starksboro', Vermont, which it is believed supplies a want long felt by maple sugar makers, as it is less injurious to the tree and more economical of sap than any spout



heretofore in use. It is very simple and is entirely of metal. A is the spout; D the head, in which is a hole, H, for the passage of the sap. The head is concave, C, forming, with the exterior bevel, D, a sharp edge, *a*, which surrounds the chamber or tap in the tree. From the central part of the concavity projects a screw, S, holding the spout firmly to the tree, and pressing the sharp edge, *a*, against the bark, thus preventing leakage. The chamber in the tree is made by the ordinary tapping bit, which should be guaged so as to allow the screw to take firm hold of the wood. The screw is placed in the centre of the hole or chamber and turned until the edge, *a*, presses firmly against the bark around the chamber. A projection, E, is added, on which the sap tub is hung and kept in its place.

Though possessing so many valuable qualities, these spouts are exceedingly simple in construction and use, and we understand are offered at a price which can be remunerative to the manufacturer only by the large sales which will result from its general introduction.

FARM LABORERS OF PRUSSIA.

M. Emile de Laveleye has just contributed an article to the *Revue des Deux Mondes*, in which an interesting account is given of the progress made by Prussia during 50 years of peace. Writing on agriculture, he points out that nearly all the land-owners cultivate their own estates; except for detached portions, renting is the exception. They are, therefore, retained in the country by the care of their own interests, for nothing more imperiously requires the eye of a master than rural industry. It is true they are aided by a class of

employees who are not found in any other country. They are educated young men belonging to families in a good position, often just leaving an agricultural college, who remain for a certain time on some large estate to initiate themselves in the practical direction of one of their own. This novitiate is an ancient custom still preserved in many trades. Thus, frequently, the son of a rich hotel-keeper will not hesitate to enter another hotel as butler or waiter (*Kellner*) to be initiated into all the details of the service over which he will one day have to preside. When any one visits the farms (*Rittergutter*) he is astonished to see as superintendent the son of a banker, a baron, or a rich land-owner. These young people drive a cart or guide the plow. At noon they return, groom their horses, and then go and dress themselves and dine at the owner's table, to whom they are not inferior, either in instruction, birth or manners. After the meal, they resume their working-dress and return, without any false shame, to their rustic occupation. Thus we find in feudal Prussia a trait of manners suited to the democratic society of the United States, and which hereafter will become general. In France, in England especially, a young man of the upper class would believe his dignity compromised in performing the work of a farm-laborer.—*Paris Correspondent of Land and Water.*

EXTRACTS AND REPLIES.

CURE FOR SCRATCHES.

Can you or any of your correspondents tell me what will cure scratches on a colt? Is there anything in the shape of medicine that will do it? By giving me any ideas on the subject you will oblige

Norway, Me., Nov. 22, 1867. A SUBSCRIBER.

REMARKS.—As this troublesome and offensive disease was pretty fully discussed in our columns during the past year, we submitted your inquiry to Dr. Trask of Reading, Mass., who has been a cattle doctor for some twenty years. He replies by remarking that most diseases of our stock are brought on by the neglect or violation of the laws of nature.

In the case of the horse afflicted with the scratches, he says, the bowels must be kept loose while fed on dry food, and the body warm and clean. In grooming his limbs, they should always be rubbed down, and not up; and he recommends that they should be slightly greased with neatsfoot or skunk's oil, or that obtained from the neck or legs of dead horses. In cleaning off the vile matter from the fetlock, he finds a corn-cob the best thing he ever used. He then applies, while warm, a wash made by boiling one hour, wormwood and the bark of whistlewood in urine. After which the foot and leg should be greased, and the animal kept on a spare diet.

As large additions have been made to the readers of the FARMER within a year, and as the papers of others may be lost which contained our own suggestions and those of our correspondents, we will give the substance of what was published upon this subject about a year ago:—

If the disease is in its first stages—that is, has not ulcerated—wash the parts affected perfectly clean with castile soap and warm water; rub dry with the hand or warm flannel. Then, with a soft sponge, bathe freely with brine from the beef or pork barrel, three or four times in twenty-four hours. Exercise the animal, by walking him about, two or three times in the course of the day. Give but little grain, and that in the form of a mash; but green food when it can be had, such as grass, or roots, and especially carrots.

If the disease has assumed the *ulcerated* form, the hair must be cut off, and the parts cleansed as stated above. It is doubtful whether the brine would be efficacious in this case,—but it would be well to try it. If not, prepare a lotion as follows, and wash three times each day with it, viz:—

Chloride of zinc, one ounce.
Creosote, four ounces.
Strong solution of white oak bark, four quarts.

There is a tendency to this disease in some horses, so that on the slightest appearance of it, measures should be taken to prevent its progress. The hair about the ankles should remain there, certainly through the winter. "Cutting it away, and thereby exposing the heels to the operation of cold and of wet is no unfrequent cause of grease. In winter, when the legs most require warmth and protection, the heels are deprived of the cover which nature intended should protect them; and parts where the blood flows most tardily are laid bare to the effects of evaporation and frost."

Mr. Hiram French, of Eaton, C. E., recommends a decoction of tamarack bark, made by boiling a bushel of the bark in a kettle of water thoroughly—strain off the liquid—add more water—boil again—then strain as before—remove the bark, and boil the whole down to one pailful. Give the horse one pint of this twice a day by soaking his oats in it. This purifies the blood and creates an appetite. After thoroughly washing with strong soap suds, and rubbing dry, apply, night and morning, an ointment composed of half a pint of linseed oil, two table spoonfuls of fine salt, same of sulphur, same of saltpetre, and one ounce of turpentine, well mixed.

"W. H. J.," of Winchester, N. H., suggests, as the disease is caused by impurity of blood, that, in addition to good feed and careful usage, a spoonful of sulphur should be administered once a week, and then if, on trial, our remedy does not cure, apply every morning, after washing clean, an ointment composed of a tea-cupful of lard, with as much camphor gum as can be dissolved therein, simmered together with a little rosin.

"J. C. M.," of Lancaster, N. H., has cured by giving sulphur, cleaning the issues on the legs, and roweling in a bit of onion.

"B. F. B." of Fletcher, Vt., washes perfectly

clean with castile soap and warm water, then apply while warm, an ointment of gunpowder ground fine, mixed with sweet cream or fresh butter, to the consistency of thin paste.

WARTS ON CATTLE.

I have a heifer eighteen months old, which has a large number of warts, (I should call them) on her skin, commencing just front of her bag and reaching nearly to her front legs, the whole weighing a half dozen pounds or more. They have been growing for three or four months. None of my neighbors have ever seen anything like it. The bunches hang down six or eight inches. Perhaps some of your readers can tell me what to do for her. She is half Dutch, and otherwise than the bunches a fine looking heifer.

H. H. BROWN.

South Sudbury, Mass., Nov. 29, 1867.

REMARKS.—We think we have never seen so many warts on cattle as this year. Whether the unusual amount of rain which has fallen the past season in New England has any connection with their production we cannot say. During the fall we have seen so large excrescences on some animals that we have been led to doubt, with our correspondent, whether they ought to be called warts. We saw a cow a few weeks since whose back was literally covered. We hope some of our readers will be able to advise Mr. Brown what to do in the case of his heifer. In the meantime, we copy from Hooper's "Practical Farmer," the following suggestive observations. Cattle, he says, are subject to various excrescences growing from the cuticle at first, but afterward identified with the true skin. They assume many forms, from that of scales of greater or less thickness, and accompanied sometimes by chaps or sores, to fungous growths, of different size and hardness, and bearing the character of warts. They are occasionally very numerous and exceedingly troublesome; and they are most numerous and most troublesome about the teats. When they grow about the eyelids they are a sad nuisance to the beast. When there are only exfoliations and scales of the cuticle, friction with camphorated oil will occasionally remove them. It has been known to disperse the watery excrescences. Mercurial preparations, whether blue ointment, or corrosive sublimate and soap, are dangerous, but they will usually get rid of the smaller ones. When they are numerous, and particularly about the udder, the practitioner will probably try to remove the largest of them by means of a ligature passed round the roots. This, however, will often be an almost endless affair, and recourse must be had to the knife and to the cautery. The cautery will stop the bleeding, destroy the root of the wart, and thus prevent its springing again. When they are small, this will be most successfully attacked by means of the nitrate of silver, the warts being touched daily with it in a solid form, if they are few and distinct; or washed with a strong solution of it, if they are more numerous and scattered over a large surface. They have been attributed to various causes, as contusions, stings of insects, want of condition, inflammation of the skin; but in most cases the actual cause is unknown.

In case recourse must be had to "the knife and cautery," it will be necessary to cast the animal, and sear the root with a red-hot iron, as unless this is done the warts will speedily sprout again.

PLOUGHING IN MANURE.

Feeling myself called upon to reply to your correspondent, "H." who seems to be a "staunch friend of the harrow," I beg leave to answer in the first place, most emphatically, that while claiming to be no less a friend to the harrow than himself, I have "no experience" in harrowing in manure; believing the *plough* the only proper implement for burying manure, for any crop. Whether this view is sound or unsound, the practical farmer can judge. The harrow gives a superficial covering, and much of the coarse manure from the barn yard, is not covered at all. The plough gives it a deep bed. Its gases are evaporated to the surface impregnating the soil all through, which gases possess about all the fertilizing properties of the manure. The theory of its leaching and being lost has, I think, become an exploded doctrine.

The vegetable roots seek the source of these gases till they find the decomposing manure. When harrowed in there is a mere surface benefit—soon to evaporate, dry and waste.

The largest crop of corn I ever raised was with manure ploughed in. The largest winter wheat crop I ever knew in Massachusetts, nearly fifty bushels to the acre, was on good pasture land, dressed with pig manure, and ploughed in. Fallowing, with any green crop, or the turning in of mowing stubble with second crop, illustrates the principle of evaporation on the winter wheat crop, and its nourishing effects. I am unable to comprehend how the statement of "H." about the "pile of manure" applies to or explains his harrowing theory. But it is quite certain this fact proves nothing as to the usual manner of fertilizing. Of course a manure heap drenched by rains must enrich the soil on which it lies. "H." says on the "lands at the West, the Lord grows taller grass, keeps it in better condition than we overwise mortals do, but that he never owned a plough and does it by top dressing." A bounteous Providence has bestowed upon much of the soil of the West a degree of fertility which for a time obviates the necessity of either manure or "top dressing." But the time will come when the voice of Wisdom which directs "that man shall till the ground," and that he must "live by the sweat of his brow," will be heard and heeded.

Brooklyn, L. I., Dec., 1867. H. POOR.

SAFE AND SURE REMEDY FOR LICE ON CATTLE.

I was sorry to see in a late number of the FARMER so dangerous a remedy as unguentum recommended for use, and to stay its application, I forward you a receipe that I have used for ten years and have never known it to fail to exterminate the vermin without any injury to the cattle.

To one gallon of soft water add one pint of soft soap, and boil them together; then add one ounce of arsenic, and stir till well mixed; after this add another gallon of soft, cold water, and it is fit for use. The soap neutralizes the poison and renders it harmless to the cattle, but a dead-shot to lice and their eggs.

My manner of application, is, to take an old coffee pot and pour the liquid slowly upon the back of the animal, from head to stern, while two persons, one on each side, rub it in with old cards or swabs. DAVID CURRIER.

Peacham, Vt., Dec. 2, 1867.

Ladies' Department.

From the Round Table.

LITTLE CHILDREN.

God bless little children!
Day by day,
With pure and simple wiles,
And winning words and smiles,
They creep into the heart,
And who would wish to say them nay?

They look up in our faces,
And their eyes
Are tender and are fair,
As if still lingered there
The Savior's kindly smile!
So very meek they look, and wise.

We live again our play-time
In their play;
Their soft hands lead us back
Along a weary track—
The pathway of our years—
Unto the time when life was May.

O! when my days have ended,
I would rest
Where little children keep
Their slumber long and deep;
My grave be near the little mounds
I know that God hath blest!

DOMESTIC ECONOMY;

OR

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1856, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER VI.

MAKING AND MENDING MEN'S CLOTHING.

Mrs. Dall, in her admirable work upon the education and elevation of woman, says, very sensibly, that all men ought to learn to sew, "and so might the cares of many women be lightened;" and quotes the pleasant words of Sidney Smith to the same effect: "I wish I could sew," he writes to Lady Holland, "I believe one reason why women are so much more cheerful than men is because they can work, and so vary their employments." Every housekeeper knows how delightful such assistance from the male portion of the family would be when

"With eyelids heavy and red,
With fingers weary and worn,"

she goes on, day after day, and week after week, in the old routine—

"Stitch, stitch, stitch,
Stitch, stitch, stitch,"

for

"Gusset, and seam, and band,
Band, and gusset, and seam,"

till there seems no end to her toil, and no bottom to her work-basket.

The invention of sewing machines has indeed lessened the labors of some. But all cannot afford the more expensive kinds; and the cheap ones are, really, worse than none,—with their aggravations of bending and breaking needles and looped thread and uncertainties of stitch; so that the greater part of family sewing is still done by the old-fashioned machine of strong right arm and dexterous fingers, that never need repair, and whose work is always satisfactory.

We know that men might sew if they would; for "men-tailors" have the name of stitching better than women,—and what one man can do, so can another. Sailors, too, often accomplish marvellous feats in the way of embroidery and carpet-work, besides keeping their "sea-toggery" in good order, during their long voyages. And I remember a brown-haired boy, who sat beside me in my earliest school days, and measured his seams of patch-work with mine; and I often wonder if the world's approval, in these later years, of his scholarly translations and highly finished poems, have been as sweet to him as the admiration of his round-eyed school-mates and the praises of his proud and happy mother when they saw the quilt completed, and his own little bed was adorned with its yellow and crimson glory. Farther on, a sailor-boy; who, in his too short stayings at home, made merriment for many a winter evening, among a bevy of frolicsome girls, and whose dimpling stitches were as evenly set as any made by the best seamstress of the group.

Certainly, mothers ought to teach their little ones how to sew as soon as Nellie can handle a needle, or Tommy wants a bag for his marbles. I have in mind one rosy elf, whose blue eyes have not yet beheld the brightness of four summers who often busies herself in the fabrication of a bonnet, or a bib, or an apron, for her "darling dolly;" and whose hems and gathers are really creditable to her tiny ladyship. I venture to say it will not be long before she does her share of the family sewing.

Although men ought, and sometimes do, sew, as long as women are expected to sew for them they may as well set about it with a good grace. And, after all, there is a proud satisfaction in seeing how these "lords of creation" place themselves at the mercy of our needle and thimble and scissors;—weapons which, in the hands of a weak woman, have turned the fortunes of more than one of the world's heroes. Knowing, thus, wherein her greatest strength lies, of course the good housekeeper "will work willingly with her hands.... will not be afraid of the snow for her household. .... Her husband is known in the gates, when he sitteth among the elders of the land .... and her own works praise her in the gates."

But, then, she sometimes needs a little instruction in the selection of materials and in the prepation of garments; matters in which good judgment, and good taste, and no small amount of ex-

perience, are needed, before just the right thing is obtained and made. It is well to remember, in the first place, that an inferior article always proves the most expensive in the end. Have an eye, and a hand, also, to economy, in the purchase of dry goods, and get the best, always. Not the nicest—nor the brightest—but *the most suitable*,—the wearer's occupation and age and circumstances should determine that.

As to colors, grays and drabs are the best for common wear. Browns and blues and greens, and black, also, show dust, and turn dingy, and look shabby much quicker than lighter colors; so that farmers and grocers and mechanics ought not to use them, except for Sunday, or *dress*, suits. If you have brown, even for those, see that you get one with a golden cast. Beware of a *purplish*, or a *red* brown; and never, on any account, buy a purple, or a plum color, or any of the purplish slate shades;—the sun turns them very soon, and acids are sure to spot them. These, with a sort of dark, purplish blue are the worst colors for men's or boys' wear. The black and gold and brown and gold mixtures, the gold being a silken thread, are excellent, both in color and material.

Double warped, and doubled and twisted warp, and the tricot, especially the French tricot, are the strongest of all cloths. German broadcloths and French cassimeres are considered by many superior to the English and American; so are the beaver and pilot cloths. Doeskins and satinets made in England are generally better than American, though, occasionally, we find some bearing American stamps that are really good. All sorts of fancy vestings and trimmings are usually more satisfactory if of French manufacture; and "more's the pity;" for by this time the American people, with their superior machinery and abundance of good materials, ought to do as well in these things as any European nation.

But the trouble is that there is too much "imitation," and *fraud*, to speak plainly, both in the substance of cloths and in their dyes. Shoddy enters into nearly everything. Look sharp, or it will evade you in some seemingly stout, strong satinet or doeskin, or beaver-cloth. Get a small strip, and pick it and pull it all back to wool. If the fibres are long, tough, yet soft, the material is good. If any cotton has been carded with it the wool is probably second-hand—shoddy. Don't buy it. It isn't worth the making. A good way to test the cloth is to burn the threads. If they are all wool they will crisp, and crust up. If they are cotton, or have a considerable portion of cotton, they will burn clearly and bright. Cotton and wool cloths that do not pretend to be all wool are often very strong, and serviceable for boys and mechanics; but the sun and air generally turn their colors very quickly. Cotton jeans, and denims, and linen, and cotton and linen for summer wear, should be thickly and evenly woven; and if of one color, only, will look better after washing than plaids or stripes or checks. Black and white checks, if of cotton and wool, are apt to turn brown in wearing, and look streaked after wetting.

Avoid large figures, and plaids, and all unusual colors, in the linings of garments. Also in the trimmings. All such things are signs of an incorrect taste, and show a lack of good sense. Flashy-and-fine is twin sister to Shoddy.

The fashion of making the vest of the same cloth with the pants, or of having coat, vest, and pants alike, has been good economy. It has also been the neatest and most becoming style ever invented for men; and prudent and judicious people are sorry to see that the old fashion of fancy vestings is returning. Silks and satins are more costly, and never so durable as woolen cloths. Velvets are very expensive, and soon lose their beauty. (Of course none but the vainest of fops would ever wear a velvet coat, or pants; and they are never within sight or hearing of this paper.) Valencias and other fancy goods look spotted and soiled in a short time. They will not bear scrubbing, and are generally miserable enough after washing. Nothing makes a man, or a lad, look more shabby than a faded or a defaced vest; and these styles cost so much that most people cannot afford to lay them quickly aside; so they are obliged to keep wearing the hateful things, feeling mean and disagreeable whenever they catch a glimpse of them, and glad enough of any pretext for getting on others.

In selecting cotton cloth, or cotton flannel, for underclothing, see that it is firmly and evenly woven; and rub it briskly—especially the cloth—to ascertain if it doesn't owe its thickness to sizing. For very nice garments, or for collars, wristbands and bosoms of shirts, get bleached goods or linen. If you want warmer material, and such as will last a long time, buy the unbleached and bleach it yourself. By calendering and dressing, bleached cotton is about half worn out before it is ready for the market. A certain corporation (which shall be nameless) has boasted that during the war its taxes were paid by the additional profit gained from extra stretching of its cloth.

The process of bleaching is very simple. The following formula is the same as that used in many bleacheries, and a large number of housekeepers have tried it, with great success: For thirty yards of cloth procure half a pound of chloride of lime. Dissolve it in one pail of boiling water. Strain it. Add two more more pails of boiling water. Wet the cloth thoroughly in warm water. Put it into the hot lime-water. Let it lie an hour, meanwhile turn it continually that every part may be well saturated. Wring it out, and wash it in clear warm water, and hang it up to dry. *Use no soap in any way.* If you choose, you may pass it through a rinse tinged with blue. The cloth will look equally white and clear with that which is stiffened and dressed, and in wearing will prove much stronger.

Be careful how you choose linen. Don't buy till you have thoroughly tested it. There are many mixtures of cotton and linen, and cotton cloth of a linen finish, which sometimes deceive the most practiced eye. Get a small piece and rub and scrub it till all its stiffness is gone. Then wash and dry it; afterward, iron it. If it looks glossy after ironing you may venture to buy, it is good. The undressed linen is generally trustworthy, though sometimes it has a cotton woof. You can tell whether it is so or not by ravelling a few threads. Cotton threads are rough, and break easily; linen —smooth and strong. It is well to do the same with a sample of the dressed linen after it is washed. Flannel for under-jackets and drawers if half cotton is less warm, but does not shrink, or mill, so badly as the all wool. Blue-mixed, gray, and scarlet are less liable to shrink than white. These are the only suitable colors for underclothing. The French flannel is generally more nicely finished than the American; but it is no better than our best kinds. Persons whose employments expose them to great extremes of heat and cold find their health much benefited by substituting flannel shirts for the usual plain white cotton, or the blue and white checked, or striped drilling ones. The fancy flannels that are thus used, whether striped, plaid, or figured, need a good deal of care in washing and drying.

The most comfortable under garments are fabricated of yarn—either woven, knit, or crocheted. If you have a good deal of leisure knit, or crochet them; they will last longer than those that are woven. Stockings, mittens, and wristlets, are better knit, or crocheted, than woven. Look out for cotton in the yarn. Test it as you would the threads of cloth purporting to be woolen. Cotton stockings that are woven will not last one-half as long as those that are hand-knit. They cannot be knit so rapidly as woolen, but, in the end they *pay*. The superiority of home-made socks and stockings was well shown by the great demand for them during the war;—the long tramps of the soldiers gave all feet coverings severe tests.

Next to selecting materials comes the cutting and making of garments. When a girl marries she is supposed to know how to do all plain needlework. But the truth is few, very few, do. Of cutting and fitting they are lamentably ignorant, even if they can sew a straight seam just as it ought to be done. Those who believe that marriage is not the goal, but the starting-post, of their lives, will soon learn to do all these things well; for they will have plenty of opportunity, and they will be sure to improve it. To all such these suggestions will not seem of little consequence. School-studies, music, drawing, embroidery, deeds of charity, missionary-work, teaching, shop-work, mill-work, housework, some, or most of these occupations have so filled your time that the plain sewing that you learned so long ago must now be learned over again. Let us begin with a shirt. You remember when you were a little girl of making a shirt for your father—button-holes and all—and how proud you felt at the praises bestowed upon the neatness and nicety of the work. You think you might possibly recall that skill—one sometimes does—and you feel mortified to see how clumsy and awkward you are in managing such a simple thing. Don't be discouraged. Pick out the stitches and try again. "Even to seven times?" Yes, to "seventy times seven," if it be not properly done.

Having succeeded in setting your stitches well, you will wish to attempt cutting.

Take six yards of cotton cloth. This will make two shirts, It is as much as you can handle easily at once. Or, you may take seven, if you wish to line the backs. It is more economical to cut two from the same piece; because some portions can be cut at the side, and just beyond others. The yard wide, or the thirty-eight-inch width, will cut to the best advantage. If you buy the bleached and dressed, wash and scald it before cutting; because it will shrink at least *ten* inches in the seven yards. Then dry and iron it very smoothly, being careful to keep it straight, particularly the selvage. If you bleach the cloth yourself you will use the same care in ironing it, and fold it evenly in the middle of the width.

Some men are always troubled by badly fitted shirts,—the neck and front are the chief difficulties. Accuracy in cutting, and in the allowance for seams, will prevent this. Procure a pattern from one who makes the cutting of shirts a special business; or, rip an old shirt, and iron every piece, and cut a pattern from it, in stiff paper. Measure the person to be fitted around the chest, outside the vest, directly under the arms. Also around the neck,—thence, to the top of the shoulder. Lay your body-pattern upon the cloth, and with these three measures calculate the slope of the shoulders, and the size of the yoke, before cutting. The back should be two or three inches fuller than the front, and should be gathered between its two shoulder slopes, being previously lined to the depth of twelve inches below the yoke; the body, about forty inches long. The arm size is cut according to the pattern; using some discretion as to the size of the person's arm, and the width of the yoke.

The linen for the shirt front should be about half a yard long. If you wish it closely plaited, one width will only make the fronts of one shirt. Some people make three fronts from a width by leaving a portion of the front single; thus obtaining fronts for three shirts from one yard. If the linen be dressed, wash it and scrub it soft before cutting. Fold a hem an inch wide along one side, straight, by a thread,—for the left front, on the outside of the cloth;—and stitch it very nicely, the whole length, about one-sixteenth of an inch from the edge; for the right front the hem is turned on the underside of the linen, and plainly hemmed. Measure the plaits, very carefully, as

you fold, and baste them at each end of the front, so that it shall be exactly as wide and as long as the pattern; and from the front of the body cut the cloth of the same shape, to make a place for its insertion. Beside lining the back, the front of the shirt from the arm-size to the linen, should be lined.

Make a strap one and one-quarter inches long and one inch wide, in which cut and work a button-hole. This strap is to be stitched at the bottom of the hem, with the linen front, into its place. It is to fasten down the front to a button at the waistband of the pants, and prevents its rising and setting out.

Stitch the bosom into its place; hem the lining over the side-seams, and cover the belt-seam with linen tape, or a folded strip of the cloth. Stitch the shoulder parts of the yoke to the sloping top of the shirt band, both front and back. Gather the fulness of the back—the lining separately from the outside—stroke the gathers carefully, and fell the middle of the yoke to them. Then cut the top of the linen front to match the slope of the remainder of the yoke, and fell it on. Take the measure of the neck, and calculate by it how deep to hollow the centre of the linen front,—if you have a pattern, shape it by that.

Next, stitch a binding—one inch wide in the middle, but sloped from the bend of the yoke till it is half an inch at the ends—around the neck.

For the length of the sleeve, measure the arm from the top of the shoulder to over the wrist-joint—the elbow being bent at a right angle. The width is determined by the arm size, which it enters straight. It may be cut away to half its fulness at the wrist, and finished with a binding an inch wide, to which a wristband may, or may not, be sewed, according to the fancy of the wearer.

The sleeve should be left open three inches, at the wrist; the opening being hemmed as narrow as it can be with neatness. The beginning of the opening should be button-hole stitched for one sixteenth of an inch, and also barred across in button-hole stitch, to prevent tearing.

Stitch the sides of the shirt, and fell them, to within twelve inches of the bottom; and then hem this; and finish the beginning of the side hem like the sleeves; or else cut a two-inch square of cloth into two three-cornered pieces, and sew in the straight sides of each from the point, one half their length, and then hem the remainder, smoothly, over upon the wrong side of the shirt.

In shaping collar and wristbands suit the fancy of the wearer, and also in attaching them to the shirt, or not. Even when they are sewed to the shirt it is well to have others that can be buttoned on. Don't use or, rather, don't consent to the use of any of the paper abominations—either collar, bosom, or wristband—by any one of whose linen you have the oversight. None but slack and inefficient seamstresses would ever feel satisfied with the sight of them. Pretence and sham follow in the same category with flashy-and-fine and shoddy.

The needlework of a shirt is simple, except the making of the buttonholes; but a little care and attention will soon conquer those. Be sure to cut the slit straight, and no longer than will admit the button. Then sew its edge overstitch—take up not more than three threads. Then pass a strong, coarse thread around the aperture, sewing it securely at each end, to form bars. Take thread of the same size that you have stitched with and begin it at the left hand corner. Put your needle through the cloth, from the inside, exactly under the coarse barring thread, as if for over-stitch. But do not draw your thread wholly through—leave a loop, which must be taken upon the needle, and through which, then, the whole length of thread is drawn tightly. Continue the work in this way around the button-hole, making the stitches all of the same depth, (three threads,) and make them lay exactly together, so that the chain formed by the loops on the edge is perfectly even. To finish the corners—after working all around—bar them strongly, and then work over those bars with the looping stitch just as the sides have been done. The beauty of a button-hole consists in the evenness of its chain and the regularity of its stitches.

If studs are worn in the front, make a fine strong cord by twisting two or three coarse threads together, and fasten it securely to the end of the lowest button-hole on the right hand side of the front. This cord should be long enough to wind around the neck of each stud after it is placed in its buttonhole, and to pass from the lowest one to the highest, and then to return, in the same way, to the lowest one, where the two ends of the cord should be tied. By this means the studs will never drop out, as they are so apt to do if not secured.

In sewing on buttons give each six stitches; (of course you will use those that are pierced—metal eyes would corrode, and stain the cloth;) then take the needle through to the outside of the cloth and wind its thread around, between the button and the cloth till you have formed a good neck to the button. Then pass your needle back to the wrong side of the cloth to fasten off,—which do, strongly.

I have been minute in these directions because the work required for a shirt includes all that is needed in the making of many articles of clothing, and if you can cut and make this properly, you can easily manage all other under-garments.

In mending shirts, when a patch is needed, put it on of a square shape, and see that it lies flat; an irregular patch, or one that looks like a pancake, is very ugly. Put as few patches as possible on the right side. Line all thin places as soon as you find them; this will prevent, for a long time, the

necessity of a patch. Very frequently a piece may be set in, instead of covering the outside.

Darn cracks and bracks with very fine thread; and be sure that you don't draw, and pucker them. Take short, even stitches; be as particular about them as if you were doing embroidery: indeed a darn may be made to look as handsome, and will be certainly more to your credit than the nicest embroidery.

When the plaits of the bosom crack, sew the raw edges very closely together with the finest thread, —taking the very least of seams. If the linen breaks away at the side of the bosom set in a piece neatly. When the button-holes of the bosom-front are badly worn, cut off the hem; and put in its place a binding of the same width, stitching it as if it were the original hem, and make therein new button-holes. If buttons get strained and loose cut them off and sew them on again; and always be quick to supply the missing buttons. When the edges of collars and wristbands are worn through sew them over, very evenly, in button-hole stitch,—it gives a handsome finish to the edge, and they will then last nearly as long as new.

As soon as shirts and other under-clothing are actually past mending, cut out whatever portions are not entirely gone, and assort them in bundles. Keep the best for mending with,—half-worn cloth is better than new for this purpose. Prepare the remainder for bandages, to be used in case of accident, or in sickness; and handkerchiefs, for the same occasions. Good wiping cloths—for tumblers and other glass ware—and dusters, and holders may be made from the more inferior parts, before the rag-bag gets its share.

This subject will be continued in the next chapter.

—A case has been recently recorded of the death by drowning, of a young child who fell into a wash tub, and of the death of another who fell into newly made soap.

IT'S ONLY A LITTLE GLOVE.

BY MATTHIAS BARR.

It's only a tiny glove,
So ragged, and old, and worn—
You scarce would stoop in your daily path
To look at the thing forlorn;
You never would think by those fingers small,
A heart could be rent and torn.

It's only a little thing,
This treasure I hoard and keep;
But many a vision of joy it brings,
And sometimes it makes me weep,
And I dream a dream of a fair-hair'd boy
Under the flowers asleep.

It's only a little glove,
Yet dearer it is to me,
For the restless feet that pattered and beat
Their music upon my knee—
Dearer for sorrow, and care and pain
Than the riches of land or sea.

It's only a tiny thing;
But I love it with deepest love—
A golden link in the chain that binds
My soul to the world above;
And I know I am nearer to Heaven each time
I bow o'er that tiny glove.

FLOWERS IN WINTER.—The best geraniums for winter blooming in the house are the different varieties of the Zonale or Horse-shoe family. These are free growers, adapt themselves well to the atmosphere of the parlor, and are seldom out of bloom. To flower well, they should be potted on through the summer, and well pinched to make them of good shape. The colors are white, pink, orange, red, scarlet and crimson, in many different shades. If bedded out in the summer, they will grow very strong and may be potted before the frost, and will soon bloom. The varieties with gold and silver foliage are not as well adapted for parlor culture as the plain-leafed kinds, but do well in a green-house. All the varieties are good; but, for the parlor, those of dwarf habit are preferable. The rose, nutmeg, ivy, apple and oak geraniums also do well in the parlor, but are desirable rather for foliage than flower.—*American Journal of Horticulture.*